



MEAL KITS FOR DINNER

**Consumer research into the drivers of
purchasing either online subscription or offline
meal kits.**

MASTER THESIS

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Abstract

Nowadays, people are experiencing an increased pace of life and feelings of time scarcity. Due to these feelings, the value of convenience has gained importance. In the area of food consumption, this has led to a rise of convenience foods and eventually, resulted in an obesity epidemic. In response to these developments, the concept of meal kits was introduced. Meal kits include recipes and pre-portioned, fresh food ingredients to help consumers prepare healthy, homecooked meals without having to do the groceries or engage in meal planning. Traditionally, these meal kits are offered within an online subscription model, where consumers subscribe to a service that delivers the meal kits to their doorstep. However, nowadays, these online subscription meal kits face major competition from brick-and-mortar competitors that offer offline meal kits in supermarkets as a product instead of as a service. The current research aimed at explaining consumers purchase behaviour regarding either online subscription or offline meal kits, which will help in constructing effective marketing strategies for both types of meal kits.

For this study, the theories of planned behaviour and reasoned action served as the backbone. A conceptual framework has been drawn up, including attribute perceptions, attitude formation, intention and actual purchasing behaviour. Moreover, the influence of someone's convenience orientation, subjective norms and moral obligation have been included. Interviews ($n = 7$) have been used in order to complete the theoretical framework. A survey ($n = 316$) has been conducted among the Dutch population aged 18 years and older. Analysis confirmed the fact that for both meal kit types someone's attitude positively affects their intention and consequently, actual purchasing behaviour. When zooming in on attribute perceptions, it showed that for the two meal kit types different attributes are relevant in the decision making process. For online subscription meal kits, someone's perception regarding time and effort saving on cooking, inspiration and variation, value for money and subscription model positively influence their attitude towards purchasing an online meal kit. For offline meal kits, value for money also proved most relevant together with someone's perception of time and effort saving on obtaining ingredients and healthiness. Value for money proved to have the most influence on someone's attitude for both meal kit types. When comparing the attribute perceptions between meal kit types, online subscription meal kits scored more positively in terms of inspiration and variation, while offline meal kits achieve better value for money. Convenience orientation proved irrelevant, while positive subjective norms increase someone's intention to purchase either one of the meal kit types. For offline meal kits, someone's intention was lowered by feelings of moral obligation.

From this research, it is recommended that providers of online subscription meal kits focus their advertising messages on their superior inspiration and variation and the ease of using a subscription model. Providers of offline meal kits should focus on their greater value for money offering, the ease of collecting your ingredients and healthiness. The current study provides strong support that this will increase the overall sales for both meal kit types. Academically, this research confirmed both the relevance of TPB and TRA in the specific setting of meal kits and the separation of subjective norms and moral obligation. Future quantitative research could focus on the purchasing behaviour of specific age groups and qualitative research could be used to map out the other attributes relevant in the attitude formation process. Most importantly, future research in consumer behaviour is needed to fill in the persistent attitude-intention and intention-behaviour gaps that are present within numerous settings.

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1. Introduction

According to multiple news outlets, people experience increasing pressure in daily life and feel busier than ever (e.g. NOS, 2018; Van Dinther, 2018; Kervezee, 2015). Academic literature shows that these feelings can be explained via both changes in productivity and technology. Technological advancements namely have helped in increasing productivity in order to achieve Aristotle's view of a 'good life', where it was expected that increased productivity would lead to more available leisure time (Hill, Wyatt, Reed, & Peters, 2003). Ironically, technology and the resulting productivity have created a rapidly increasing perceived pace of life (Rosa, 2013). The general thought in modern society is that not enough time is available, leading to feelings of time scarcity (Gleick, 1999).

Due to these feelings of time scarcity and changing family structures, the value of convenience has gained importance (Hill et al., 2003). Reich states in his book *The Future of Success* (2001) that people no longer have sufficient time for traditional food preparation, which has led to a demand for pre-packaged and fast food. The rise of such convenience foods, which are energy-dense and high in fat, salt and sugar content, have in turn led to an obesity epidemic (Hill et al., 2003).

Worldwide, almost 2 billion adults are overweight and 650 million are obese (World Health Organization, 2018). Being overweight or obese has dramatic health consequences, such as an increased risk of diabetes type 2 or cardiovascular disease (Despres, 2001). Moreover, the obesity epidemic results in both higher economic costs, such as increasing healthcare expenditures, and higher social costs in the form of emotional suffering, since obese people face prejudice or discrimination (Wellman & Friedberg, 2002). Due to the severity of the obesity epidemic, the World Health Organization has declared this as one of the top five risk conditions in the developed world (World Health Organization, 2018).

In response to these developments, the concept of meal kits has been introduced in Sweden in 2007. Meal kits include recipes and pre-portioned, fresh food ingredients to help consumers prepare homecooked meals without having to do the groceries or engage in meal planning (Packaged Facts, 2017). These meal kits traditionally are offered via an online subscription delivery model, where consumers subscribe to a service that delivers such meal kits on a weekly basis to their home addresses, after they have chosen their desired dishes via an online portal. This accommodates to consumers' ever-growing demand for convenience, while also offering healthy dinner options. Nowadays, meal kits have been introduced throughout the Western world by major players such as Blue Apron and HelloFresh.

The fact that the meal kits are traditionally offered via online services, is not surprising since over 4 billion people are connected to the Internet worldwide and the market of online shopping is gaining its share worldwide. Of the global consumers with Internet access, 95% has made an online purchase at least once, contributing to a global FMCG e-commerce growth of US\$70 billion in the past two years (Nielsen, 2018). Within e-commerce activities, online groceries post the most significant growth, since 26% of global digital consumers have purchased packaged and fresh groceries online, a rapid increase of 15% over the last two years (Nielsen, 2018). Within the Netherlands, online groceries currently account for 4% of market share, which is expected to increase to 22% by 2023 (GfK & Shopping Tomorrow, 2018).

Whereas the growth estimates of meal kit delivery services were promising in 2015, growth seems to have stagnated nowadays. In that time, the market of meal kits in the Netherlands was valued at €225 million, with HelloFresh being the clear market leader with 70% market share (Retail Intelligence Lab, 2016). Even though HelloFresh increased its revenue by 41.4% in 2018 to €1.28 billion globally, they still suffered a net loss of €82.8 million in the same year (Nu.nl, 2019). Companies such as HelloFresh namely face competition in multiple ways.

Firstly, more players are entering the meal kit market; smaller companies such as Marley Spoon or meal kit services from supermarkets such as the Allerhande Box of Albert Heijn are gaining market share fast (Emerce, 2018). Moreover, some new firms are focussing their entire business on growing niche markets where consumers prefer organic or locally grown produce (Multiscope Marktonderzoek, 2016). Most importantly, the traditional subscription delivery models face competition from alternative purchase venues, such as brick-and-mortar supermarkets that offer meal kits as a product instead of a service or subscription-free meal kits. Consumers can now buy individual, private-label meal kits in their grocery store or online, without the obligations of subscribing to a service (Redmann, 2018).

The popularity of offline meal kits offered as a product in supermarkets, can be explained via the fact that Dutch consumers are not as interested in subscription models as other European countries: 70% of the Dutch population do not find subscriptions for tangible goods appealing compared to the European average of 40% (ING Economics Department, 2018). As a response, traditional meal kit delivery services also started to offer their meal kits as products in offline grocery stores (Redmann, 2018).

Next to the new forms of competition, online meal kit subscription companies face another major problem. Whereas other online subscription categories such as Netflix have a retention rate of 70% after twelve months, indicating that after a year 70% of customers is still subscribed to their service, HelloFresh only retains 15% of its customers after a year (Trip, 2018). This gives reason to have a look at the factors that attract consumers to online subscription meal kits and the differences in perception compared to offline meal kits, since these gain in popularity (Distrifood, 2018).

A lot of applied research has been conducted by market research agencies into the drivers and barriers of both online subscription and offline meal kits (e.g. Drost, Van der Wal & Baas, 2015). Commonly found drivers are convenience, variation and inspiration. Established barriers are the fact that people prefer to pick their groceries themselves, them not liking the dishes available, the obligation of having to subscribe for a service in the case of online subscription meal kits or the price. However, little academic research has been conducted within the specific field of both online subscription or offline meal kits (e.g. Hertz & Halkier, 2017; Roh & Park, 2018; Hill & Maddock, 2019). Moreover, no academic research has compared the two types of meal kits. Therefore, it is not clear which (psychological) mechanisms drive consumers to purchase either online subscription or offline meal kits. The current research will try to fill in this knowledge gap by answering the following research question: *'What drives consumers' purchase behaviour regarding either online subscription or offline meal kits?'*

2. Theoretical framework

Within the current literature a lot of research has been done into the reasons why consumers conduct certain purchasing behaviour. A leading model regarding human decision making is the theory of planned behaviour (TPB; Ajzen, 1991), which is considered an extension of the theory of reasoned action (TRA; Fishbein & Ajzen, 1975). TPB states that someone's intention to perform different kinds of behaviour can, amongst other things, be predicted from both attitudes towards the behaviour and subjective norms. This model served as the backbone for the current conceptual framework, which is aimed at explaining the behavioural intention of consumers to purchase meal kits (Fig. 1, end of chapter).

2.1 Attitude and intention

Firstly, the relationship between attitudes and behavioural intention needs to be discussed. Attitudes are defined as 'psychological tendencies that are expressed by evaluating a particular entity [i.e. meal kits] with some degree of favour or disfavour' (Eagly & Chaiken, 1998). In other words, attitudes relate to whether people think something is pleasurable and whether it fits their goals. Intentions on the other hand are assumed to capture someone's motivational factors that influence a certain behaviour; they indicate how hard someone is willing to try or make an effort in order to perform the behaviour (Ajzen, 1991). The stronger the intention to exert certain behaviour, the more likely the actual performance of the behaviour will be (Fishbein & Ajzen, 1975).

Within consumer behaviour, attitudes are regarded as key determinants of people's purchase decisions, where a positive attitude leads to higher purchase intention (Ajzen, 1991; Bagozzi, 1992). Prior research into online food delivery services (OFD) also found a positive relationship between attitude towards OFD services and behavioural intention (Yeo, Goh, & Rezaei, 2017). Within the current research, a positive relation between attitude and behavioural intention for online subscription as well as offline meal kits is expected. Therefore, the following hypothesis can be derived:

H1. Consumers' positive attitudes towards meal kits positively influence their behavioural intention towards both online subscription (H1a) and offline meal kits (H1b).

2.2 Actual behaviour

According to the TPB, intentions guide behaviour and the stronger someone's intention, the more likely someone will actually perform a certain behaviour (Ajzen, 1991). It is expected that for both meal kit types a higher purchase intention regarding meal kits leads to a higher likelihood of actual purchasing behaviour. Therefore, the following hypothesis is stated:

H2. A higher purchase intention regarding meal kits positively influences the actual purchasing behaviour of consumers for both online subscription (H2a) and offline meal kits (H2b).

2.3 Attribute perception

Both the TRA and TPB are considered multi attribute models, since they explain the formation of attitudes via multiple elements (Fishbein & Ajzen, 1975; Ajzen, 1991). Attitudes are formed by taking the weighed sum of the evaluations of multiple product attributes. In other words, consumers form beliefs about individual product attributes and determine how important these attributes are. Combining these attribute perceptions, they then establish a certain overall attitude towards the product or service. The more positive the

attributes are evaluated, the more positive the attitude towards the product or service will be (Fishbein & Ajzen, 1975; Ajzen, 1991).

In light of this, it is important to consider attribute perception in the current research. The attributes of meal kits that are included in the model and discussed below are time and effort saving in cooking, obtaining ingredients and meal planning, gaining inspiration and variation, value for money, the perceived healthiness of the meals and someone's perception of a subscription model. The attributes of time and effort saving, gaining inspiration and variation and value for money were initially found in market research (Drost et al., 2015), and confirmed by the current researcher by conducting seven in-depth interviews. However, from the interviews other attributes were deducted, namely the perceived healthiness of the meals and someone's perception of a subscription model. Since academic literature is missing regarding meal kits, it has been decided to include these additional attributes in order to academically test their relevance.

Six attribute perceptions (regarding time and effort saving on cooking, time and effort saving on obtaining ingredients, time and effort saving on meal planning, inspiration and variation, value for money and healthiness) will be compared across the two types of meal kits, namely online subscription and offline meal kits. Please note that for most of the attributes, no significant differences are expected between the two types of meal kits. For instance, it is not expected that consumers perceive the time and effort needed on cooking when using online subscription meal kits to be significantly different from when they use offline meal kits. If such differences are expected for a specific attribute, these expected differences will be explained in the relevant paragraph of this chapter. In the visual representation of the conceptual framework (see end of this chapter) this is represented via hypothesis 10.

2.3.1 Time and effort saving

Firstly, research into the drivers of meal kits revealed that the use of meal kits influences the daily practices of meal planning, grocery shopping and cooking (Hertz & Halkier, 2017). These practices have also been confirmed in the in-depth interviews (see appendix 1). Practices are explained in practice theory and can be defined as routinised types of behaviour which are performed in similar ways by people that do not know each other (Warde, 2014; Reckwitz, 2002).

By making use of meal kits, the time and effort needed to prepare a meal is reduced; when using online subscription meal kits people no longer have to visit the supermarket in order to fetch their groceries. When selecting an offline meal kit, consumers no longer have to collect the individual ingredients themselves, lowering the effort people have to make. In contrast, the in-depth interviews for the online meal kits revealed that some find it challenging to be at home to receive the meal kits that are delivered in a specific time slot. Therefore, the effort needed to collect one's online meal kit might actually increase. In order to also include the potential barriers of receiving the meal kit at home, the practice of obtaining ingredients is used in the conceptual framework instead of the more narrow practice of grocery shopping.

Both types of meal kits also alleviate the time and effort needed for meal planning, since consumers can choose their meals from a range of fixed options offered by the meal kits. Moreover, prior research has shown that time saving functions are positively related to online (food) shopping (Yeo et al., 2017; Chang, Cheung & Lai, 2005). Therefore, time and

effort saving in meal planning, obtaining ingredients and cooking are considered relevant constructs in the current framework and led to the following hypotheses:

H3. *A more positive perception of the time and effort saving characteristic regarding cooking of a meal kit leads to a more positive attitude toward purchasing both online subscription (H3a) and offline meal kits (H3b).*

H4. *A more positive perception of the time and effort saving characteristic of a meal kit regarding the obtainment of ingredients leads to a more positive attitude toward purchasing both online subscription (H4a) and offline meal kits (H4b).*

H5. *A more positive perception of the time and effort saving characteristic of a meal kit regarding meal planning leads to a more positive attitude toward purchasing both online subscription (H5a) and offline meal kits (H5b).*

Regarding time and effort saving, differences in perception between the two meal kit types are only expected to arise for the time and effort needed to obtain ingredients. In the case of online subscription meal kits, the meal kits are delivered at someone's doorstep so consumers no longer have to do groceries for their dinner. This might alleviate the time and effort needed to obtain ingredients, despite the fact people have to be at home during a specific time slot in order to receive the online meal kit. Offline meal kits always have to be purchased in a supermarket. The in-depth interviews confirmed this expectation since respondents acknowledged the difference in time and effort needed to obtain ingredients. In light of this, the following hypotheses are drawn up:

H10.1 *No significant differences are expected between the perception of time and effort saving on cooking for the two meal kit types.*

H10.2 *Online subscription meal kits are more positively perceived in terms of time and effort saving for obtaining ingredients as compared to offline meal kits.*

H10.3 *No significant differences are expected between the perception of time and effort saving on meal planning for the two meal kit types.*

2.3.2 Inspiration and variation

Next to time and effort saving, market research labelled inspiration and variation as main drivers for purchasing meal kits (Drost et al., 2015). Consumers often search for new recipes to try out and break from their standard dinner options. Moreover, meal kits help them in acquiring new cooking skills (Hertz & Halkier, 2017). When consumers like the dishes that are available because they offer variation and inspiration, this will positively affect their attitude towards the meal kits. This is most likely the case for both online subscription meal kits and offline meal kits. However, both with online subscription and offline meal kits the situation changes when someone does not like the dishes that are available or when choices and variation of dishes are limited over time. If someone does not like the available choices, with online subscription meal kits he or she is still obligated to select unattractive dishes due to the subscription model of the purchasing agreement. This will most likely negatively influence someone's attitude towards the online subscription meal kits. With the offline meal kits a consumer can simply decide not to purchase the meal kit.

H6. *A more positive perception of the inspiration and variation a meal kits offers, leads to a more positive attitude towards purchasing both online subscription (H6a) and offline meal kits (H6b).*

H10.4 *No significant differences are expected between the perception of offered variation and variation for the two meal kit types.*

2.3.3 Value for money

Moreover, market research into meal kits and the in-depth interviews have shown that price is an important determinant of someone's intention to purchase a meal kit (Drost et al., 2015). Here, price can be defined as the monetary value someone has to pay in exchange for a product or service (Nagle, Hogan, & Zale, 2010). However, academic research has shown that price alone is not a strong predictor of purchasing behaviour (i.e. Zeithaml, 1988; Sweeney & Soutar, 2001). Instead, the perceived value of a product or service is more likely based on the perception of what is received and what is given (i.e. quality and price) (Zeithaml, 1988).

From this, it is decided to use the construct of value for money for the current research, which can be seen as the ratio or trade-off between the quality and price of a product (e.g. Cravens, Holland, Lamb & Moncrieff, 1988; Monroe, 1990). When a product or service is perceived to offer good value for money, someone's attitude towards the product or service is positively affected (Sheth, Newman, & Gross, 1991). In contrast, when the price of the product is perceived as too high compared to the quality, this acts as a barrier towards using meal kits (Molesworth & Suortti, 2002). Therefore, the following hypothesis can be stated in the case of meal kits:

H7. *A more positive value for money perception for the meal kit positively influences the consumer's attitude towards purchasing both online subscription (H7a) and offline meal kits (H7b).*

Moreover, the in-depth interviews showed that there might be a difference in the value for money perception of the meal kit between online subscription and offline meal kits. Respondents mostly mentioned that the online subscription meal kits are more expensive than the offline meal kits. With the offline meal kits, respondents felt the slight price premium was justified, since they lower the effort needed to obtain the individual ingredients in the supermarket. The price of online subscription meal kits led some respondents to cancel their subscription, while they still purchase offline meal kits nowadays. The quality of the ingredients within both the online subscription and offline meal kits was sometimes also doubted by the respondents, which led them question the value for money for the two types of meal kits. In light of this, the following is stated:

H10.5 *Offline meal kits are more positively perceived in terms of value for money than online subscription meal kits.*

2.3.4 Healthiness

Within the in-depth interviews, respondents also mentioned the fact that both online subscription and offline meal kits offer them fresh and healthy meals. Since obesity is labelled as one of the biggest threats by the WHO, consumers are searching for more healthy foods (World Health Organization, 2018). From the interviews, it is hypothesised that both

types of meal kits are perceived as healthy dinner options and that this leads to a positive attitude towards the meal kits. Therefore, the following is stated:

H8. *A more positive healthiness perception of the meal kit positively influences the consumer's attitude towards purchasing both online subscription (H8a) and offline meal kits (H8b).*

H10.6 *No significant differences are expected between the healthiness of the two meal kit types.*

2.3.5 Subscription model

The online subscription meal kits are offered in the form of a subscription model to the consumer. This means consumers subscribe to an online service that then delivers their meal kits to their doorstep every week. Benefits of such a business model for consumers is the fact that they no longer have to do groceries. However, the in-depth interviews also revealed some potential downsides of the subscription model, namely the fact that people have to be at home in order to receive the meal kit, as mentioned earlier, and that flexibility is missing. For instance, respondents mentioned that with the subscription model they have to subscribe to a fixed number of meals per week. However, they did not need the same amount of meals per week since the need for meal kits differs per week. Moreover, as stated in the introduction of this paper, research found that Dutch consumers are reluctant to make use of subscription models (ING Economics Department, 2018). Therefore, the inclusion of someone's perception regarding subscription models seems relevant to include in the current framework. It is expected that a positive perception of a subscription model leads to a positive attitude towards purchasing online subscription meal kits, so:

H9. *A more positive perception of the subscription model of the meal kit positively influences the consumer's attitude towards purchasing online subscription meal kits.*

2.4 Convenience orientation

In this study, convenience orientation can be conceptualised as the degree to which a consumer is inclined to save time and effort in the practices of cooking, obtaining ingredients and meal planning in general (Olsen & Mai, 2013). Prior research already showed that a high convenience orientation positively affects the usage of convenience foods and online to offline food delivery services (Bava, Jaeger & Park, 2008; Roh & Park, 2018). It is hypothesised that a consumer's convenience orientation has a positive moderating effect on the relationship between time and effort saving and their attitudes towards meal kits. Since the practices of cooking, obtaining ingredients and meal planning have been incorporated in the conceptual framework, it is expected that the effect of someone's convenience orientation on these relationships might differ for the three different practices. Therefore, the following hypotheses can be stated:

H11. *A higher convenience orientation strengthens the relationship between the perception of time and effort saving on cooking when using meal kits and someone's attitude towards both online subscription (H11a) and offline meal kits (H11b).*

H12. *A higher convenience orientation strengthens the relationship between the perception of time and effort saving on obtaining ingredients when using meal kits and someone's attitude towards both online subscription (H12a) and offline meal kits (H12b).*

***H13.** A higher convenience orientation strengthens the relationship between the perception of time and effort saving on meal planning when using meal kits and someone's attitude towards both online subscription (H13a) and offline meal kits (H13b).*

2.5 Subjective norms and moral obligation

Within the TPB, the influence of others on someone's behavioural intention has been incorporated. Even though consumers may have their own preferences, what they think others would like them to do has a large influence on their behaviour. Someone might decide not to conduct certain behaviour, if he or she thinks other people will not agree with this decision (Ajzen, 1991; Solomon, Bamossy, Askegaard & Hogg, 2013). In light of this, the element of injunctive subjective norm has been added to the TPB. The injunctive subjective norm includes both the intensity of someone's normative belief that others might think the behaviour should be conducted or not and the consumer's motivation to comply with that belief. In other words, motivation shows how important a consumer finds the opinion of others about their purchasing behaviour (Ajzen, 1991).

Next to injunctive subjective norms, the construct of descriptive subjective norms refers to the behaviour consumers' think others enact. In the setting of meal kits, descriptive subjective norms would entail someone's perception of how often their friends typically use a meal kit during an average week (Leavens, et al., 2018).

Subjective norms are also relevant for food products and services. Earlier research into online to offline food delivery services has already found significant effects of injunctive norms on someone's intention to use such services (Roh & Park, 2018). However, no relevant academic research has included descriptive norms. Therefore, both injunctive and descriptive subjective norms are included in the construct of subjective norms in the proposed conceptual framework aimed at investigating the purchase intention for meal kits.

Next to the social influence of others (i.e. subjective norms), earlier research has suggested that personal feelings of moral obligation should also be considered when looking at intentions (Hertz & Halkier, 2017; Gorsuch & Ortberg, 1983; Pomazal & Jaccard, 1976). Consumers might feel a sense of moral obligation that influences their behavioural intention towards purchasing a product or service. A prime example in the setting of meal preparation is the fact that the ideals of proper homecooked meals persist, while people experience an increasing pressure by the complexity of families' everyday lives (Carrigan, Szmigin, & Leek, 2006). Instead of opting for convenience foods, the use of meal kits could function as a happy medium between ready-to-eat convenience food and completely cooking from scratch (Hertz & Halkier, 2017). The moral obligation of cooking a proper homecooked meal can then be fulfilled by using meal kits. Within the current research, the influence of moral obligation will be empirically tested in the setting of both online subscription and offline meal kits.

In conclusion, regarding the expected effects of subjective norms and moral obligation on attitude and intention towards purchasing both online subscription and offline meal kits, the following hypotheses are stated:

***H14.** Positive subjective norms regarding the use of meal kits lead to a higher intention towards purchasing both online subscription (H14a) and offline meal kits (H14b).*

***H15.** Higher feelings of moral obligation regarding home cooked meals lead to a lower intention towards purchasing both online subscription (H15a) and offline meal kits (H15b).*

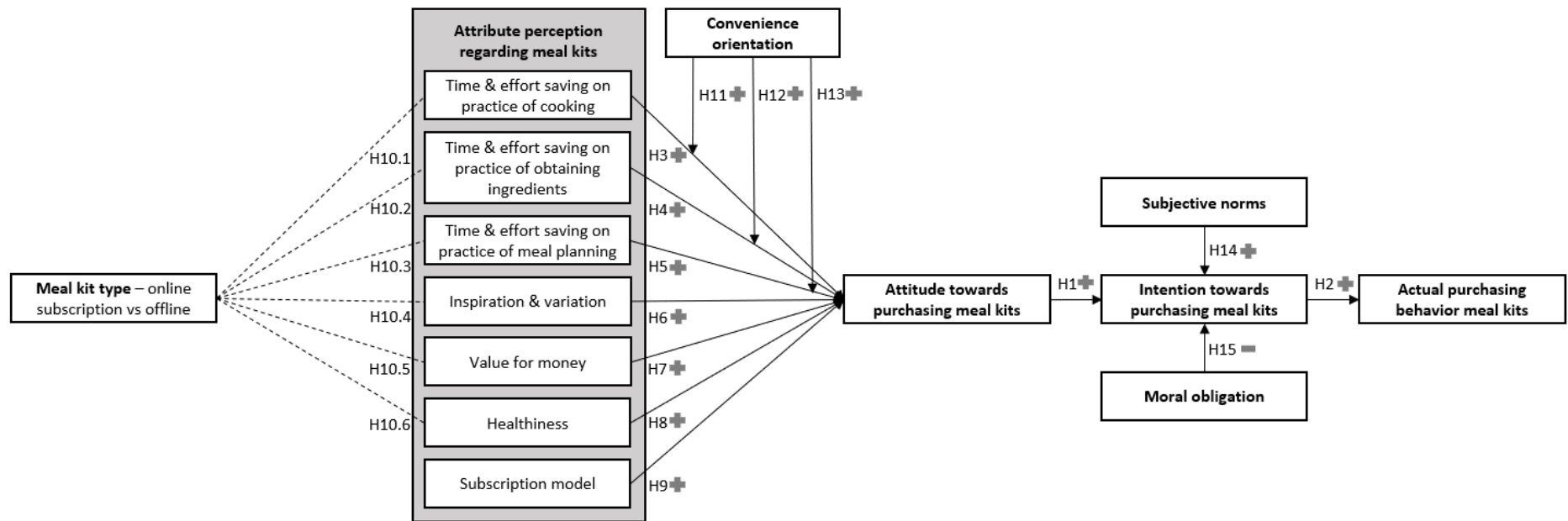


Figure 1. Proposed conceptual framework.

3. Methodology

In order to answer the research question *'What drives consumers' purchase behaviour regarding either online subscription or offline meal kits?'*, a combination of qualitative and quantitative research has been carried out. In this chapter the methodology for both types of research is described.

3.1 Qualitative research

Firstly, as already briefly mentioned in the theoretical framework, qualitative research has been conducted in order to verify the selected attributes of meal kits included in the conceptual model (i.e. time and effort saving perception on cooking, obtaining ingredients and meal planning, inspiration and variation and lastly, value for money perception). Next to verification, the interviews led to the inclusion of the constructs of healthiness and perceptions regarding the subscription model. This research has been carried out in the form of brief structured interviews. A convenience sample was used to select the respondents and a topic guide was developed (Appendix 1).

Before starting the interview, the following working definition was explained to the first five respondents: *'meal kits are boxes that contain pre-portioned and fresh products and recipes that help you in preparing freshly cooked meals from scratch, without you having to do groceries or collecting the ingredients yourself. Moreover, you do not have to plan the meals yourself. Examples of such meal kits are for instance HelloFresh or the meal kits in supermarkets (i.e. 'verspakketten' in Dutch)'*. Please notice that this definition entailed both online subscription and offline meal kits, since the aim of the interviews was to verify the attributes for both types of meal kits.

However, after critical review showed that the definition was directing the respondents too much, it was decided to change the working definition for the final interviews: *'meal kits are boxes that contain pre-portioned and fresh products and recipes that are used to prepare freshly cooked meals from scratch. Examples of such meal kits are for instance HelloFresh or the meal kits in supermarkets (i.e. 'verspakketten' in Dutch)'*. This change in definition did not result in different answers by the respondents, so this new definition was used as input for the quantitative research.

After explaining the definition of meal kits, respondents (n=7) were asked to list both positive and negative aspects in their consideration of using such meal kits. Afterwards, they were asked to rank the different attributes with 1 = most important, n = least important. Analysis of these interviews revealed that healthiness and perceptions regarding the subscription model needed to be included in the conceptual model. Transcriptions of the interviews can be found in Appendix 1.

3.2 Quantitative research

After verifying the attributes of meal kits that are included in the conceptual framework, quantitative research was carried out. The population used for this research are Dutch citizens with a minimum age of 18 years old. It is expected that this population has (partial) decision power in meal provision. Convenience sampling has been used to select respondents via Facebook and direct messages. Moreover, respondents were asked to invite their network to participate as well.

3.2.1 Operationalization and measurements

In order to measure the constructs included in the framework, item scales are used per construct (table 1). These item scales have been derived from earlier research and adjusted to the setting of meal kits.

Construct	Items*	Source and reliability
Attitude towards purchasing meal kits (APMK) ^A	APMK1 Purchasing meal kits is wise APMK2 Purchasing meal kits is good APMK3 Purchasing meal kits is rewarding	(Yeo et al., 2017) $\alpha = 0,831$
Intention to purchase meal kits (IPMK) ^A	IPMK1 I plan to purchase meal kits in the future	(Yeo et al., 2017)
Actual purchasing behaviour of meal kits (APB) ^B	APB1 How often have you used a meal kit during the past month? Please note, this is about the number of dishes you have prepared, not the number of boxes.	
Attribute perception meal kits: Time and effort saving on cooking (TESC) ^A	TESC1 Using meal kits allows me to spend less time on cooking TESC2 Using meal kits lowers the effort I have to make to prepare a meal TESC3 Using meal kits makes cooking easier	(Childers et al., 2001) $\alpha = 0,812$
Attribute perception meal kits: Time and effort saving on obtaining ingredients (TEOI) ^A	TEOI1 Using meal kits allows me to spend less time on obtaining ingredients TEOI2 I have to spend less effort on obtaining ingredients when using meal kits TEOI3 Using meal kits makes obtaining ingredients easier	(Childers et al., 2001) $\alpha = 0,846$
Attribute perception meal kits: Time and effort saving on meal planning (TEMP) ^A	TEMP1 Using meal kits allows me to spend less time on meal planning TEMP2 Using meal kits lowers the effort I have to make to decide what I am having for dinner TEMP3 Using meal kits makes meal planning easier	(Childers et al., 2001) $\alpha = 0,851$
Attribute perception meal kits: Inspiration and variation (IV) ^A	IV1 Meal kits help me in attaining new recipes IV2 My diet will be more diverse when using meal kits IV3 The meal kits offer enough variation in meals over time	$\alpha = 0,663$
Attribute perception meal kits: Value for money (VFM) ^A	VFM1 Meal kits offer value for money	(Sweeney & Soutar, 2001)
Attribute perception meal kits: Healthiness (HMK) ^A	HMK1 Meal kits offer healthy dishes	
Attribute perception meal kits: Subscription model (SM) ^A	SM1 I do not mind subscribing to a service in order to make use of online meal kits SM2 I find the subscription model of meal kits flexible	$R = 0,378^{**}$
Convenience orientation (CO) ^A	CO1 I prefer meals that are quick to plan, buy, prepare and cook CO2 The less physical effort (work, energy) I need to buy and prepare a meal, the better. CO3 I prefer meals that are easy to plan, buy, prepare and cook	(Olsen et al., 2007) $\alpha = 0,850$
Subjective norms (SN) ^A	SN1 Most people who are important to me think I should use meal kits SN2 Most people who I value have used or use meal kits	$R = 0,507^{**}$
Moral obligation (MO) ^A	MO1 Using meal kits instead of independently cooking my own meals would go against my principles MO2 Using meal kits instead of independently cooking my own meals would make me feel guilty MO3 Using meal kits instead of independently cooking my own meals would be morally wrong	(Roh & Park, 2018; Dean et al., 2008) $\alpha = 0,799$

Table 1. Operationalization of constructs.

* the term 'meal kits' will be replaced per questionnaire to either online subscription or offline meal kit.

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

^A measured on a scale from disagree (1) to agree (5).

^B measured on a scale from 0 to 31 times.

Within this research, the following constructs have been included: attitude towards purchasing meal kits (i.e. APMK), intention to purchase meal kits (i.e. IPMK), actual purchasing behaviour (i.e. APB), time and effort saving on cooking (i.e. TESC), time and effort saving on obtaining ingredients (i.e. TEOI), time and effort saving on meal planning (i.e. TEMP), inspiration and variation (i.e. IV), value for money (i.e. VFM), healthiness (i.e. HMK), subscription model (SM), convenience orientation (i.e. CO), subjective norms (i.e. SN) and moral obligation (i.e. MO). Since the reliability has been checked in previous research, the reliability within the current research is likely to be acceptable as well, but is checked again ($\alpha > 0.70$)¹ in table 1.

Attitude and intention towards purchasing meal kits (APMK and IPMK)

The research of Yeo et al. (2017) focused on consumer's attitude and behavioural intention towards online food delivery services. Since online food delivery services are comparable with meal kits, because it entails both food shopping and the obtainment of ingredients takes place online in the case of online subscription meal kits, it has been decided to make use of their constructed items in order to measure APMK. An example of one of the items is: '*Purchasing meal kits is wise*'. The same goes for IPMK, where respondents were asked: '*I plan to purchase meal kits in the future*'. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Actual purchasing behavior

In order to measure someone's actual purchasing behavior, respondents were asked to indicate how often they have used a meal kit in the past month, using a scale of 0 to 31 times. Please note, that this is about the number of meals that have been cooked with the help of a meal kit and not the number of meal kits, since online subscription meal kits contain multiple dishes.

Attribute perception: time and effort saving (TESC, TEOI and TEMP)

For the constructs of TESC, TEOI and TEMP the items were derived from the research of Childers, Carr, Peck and Carson (2001). Within their research, they used the items to measure the construct of convenience regarding a specific service, namely technology assisted shopping. Since it is designed to measure someone's convenience perception for a specific product or service and the items focused on saving time and effort, it has been decided to use these items to measure TESC, TEOI and TEMP. The items have been adjusted to fit the setting of meal kits and the relevant practices (i.e. cooking, obtaining ingredients and meal planning). An example of one of the items is: '*Using meal kits allows me to spend less time on cooking / obtaining ingredients / meal planning*'. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Attribute perception: inspiration and variation (IV)

For this construct, unfortunately no existing construct was found in the current literature. The items that were used for this research were derived from the earlier conducted in-depth interviews. An example of an item that measures IV is: '*Meal kits help me in attaining new recipes*'. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Attribute perception: value for money (VFM)

In order to measure VFM, an item have been derived from the so-called PERVAL scale,

¹ As proposed as an acceptable threshold by Field (2009).

which measures the perceived value someone attaches to a product or service (Sweeney & Soutar, 2001). According to the work of Rossiter (2002) the predictive validity of single item scales can be just as good as the validity of multi item scales when both the object and attribute can be considered concrete. This implies that the meaning of the object and attribute can be ‘easily and uniformly imagined’ (Bergkvist & Rossiter, 2007). Moreover, single item scales minimize respondents’ burden. Therefore, a single item scale has been used to measure VFM, namely: *‘Meal kits offer value for money’*. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Attribute perception: healthiness (HMK)

For this construct, again a single item scale has been used, namely: *‘Meal kits offer healthy dishes’*. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Attribute perception: subscription model (SM)

Since two relevant aspects of a subscription model were derived from the in-depth interviews, SM will be measured with the help of two items, namely *‘I do not mind subscribing to a service in order to make use of online meal kits’* and *‘I find the subscription model of meal kits flexible’*. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement. Please note that these items have only been included in the setting of online subscription meal kits.

Convenience orientation (CO)

In order to measure someone’s CO, items have been derived from Olsen, Scholderer, Brunso and Verbeke (2007). Their research included CO as a determinant of someone’s food choices. The items used in their research have been based on the Candel’s scale measuring convenience orientation in meal preparation. Since the research of Olson et al. (2007) also included the practices of planning and buying next to preparation or cooking, they slightly modified the items. The modified items of Olsen et al. (2007) are also used in the current research. An example of one of the items that measures CO is: *‘I prefer meals that are quick to plan, buy, prepare and cook’*. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement.

Subjective norms (SN) and moral obligation (MO)

The research of Roh and Park (2018) makes the same distinction between SN and MO as the current research, where SN focusses on the opinion of others on someone’s behaviour and MO targets the inner feelings or objections of a consumer, such as feelings of guilt. Therefore, SN and MO will also be separately assessed in the current research.

In order to measure SN it has been decided to use the items from the research of Dean, Raats and Shepherd (2008) since these items can be evaluated by the same five point Likert scale used for the rest of the constructs. The items have been adjusted in order to fit the setting of meal kits. One of the items that has been used to measure SN is: *‘Most people who are important to me think I should use meal kits’*. Moreover, in order to include descriptive norms, respondents were asked whether the people they valued have used or use meal kits.

Lastly, MO is measured with a multiple item scale by asking for instance: *‘Using meal kits instead of independently cooking my own meals would go against my principles’*. Participants could use a five-point Likert scale (1= disagree, 5= agree) to indicate their agreement for the items measuring MO.

3.2.2 Survey set-up

Qualtrics has been used to design this survey. Please note that the survey is written in Dutch. Respondents have either answered the questions in the case of online subscription or in the case of offline meal kits. So, none of the respondents have answered the questions for both types of meal kits and separate analyses are conducted for the two types of meal kits.

In order to make this possible, the survey flow consisted of two separate branches, one for each of the type of meal kit. The option ‘randomize, equally distributed’ has been used, so Qualtrics randomly assigned respondents to either the first or second branch. In other words, after respondents saw the initial introduction page of the survey, they were randomly assigned to either the questions relating to online subscription meal kits or to offline meal kits. Every branch got its own landing page, where the definition of the specific meal type was explained to the respondent.

Dit onderzoek focust zich op de beweegredenen waarom mensen maaltijdboxen aanschaffen. Maaltijdboxen zijn in dit geval te definiëren als: ‘pakketten die afgemeten en verse producten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Om van deze pakketten gebruik te maken, neemt u online een abonnement af, waarbij de maaltijdboxen thuis bij u worden afgeleverd. Voorbeelden van dergelijke maaltijdboxen zijn bijvoorbeeld HelloFresh of Marley Spoon.’



Figure 2. Landing page for online subscription meal kits.

Dit onderzoek focust zich op de beweegredenen waarom mensen verspakketten aanschaffen. Verspakketten zijn in dit geval te definiëren als: ‘pakketten die afgemeten en verse producten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Deze pakketten kunt u individueel kopen in de supermarkt. Voorbeelden van dergelijke pakketten zijn bijvoorbeeld de verspakketten van Albert Heijn of Jumbo.’



Figure 3. Landing page for offline meal kits.

Please note that the items were exactly the same for the two types, but only the meal type changed. After completing one of the branches, all respondents were asked to answer the same questions for their social-demographics and saw the same ‘thank you’ page. The complete survey flow can be found in Appendix 2.

The survey mostly consisted of questions that could be answered on a 5-point Likert scale. This was decided since literature advises to use between 5 and 9 answer categories,

where the number is large enough to show a fine distinction between the answer options, but not too elaborate since this will confuse respondents (Malholtra, 2010). Therefore, a 5-point Likert scale seemed suitable for this research.

In order to be able to distinguish the answers for the two types of meal kits, the option of ‘embedded data’ has been used, so Qualtrics automatically added another variable in the dataset based on the branch. The embedded variable ‘meal kit type’ took the value ‘1’ when respondents answered the survey in the context of online subscription meal kits and the value ‘2’ in the context of offline meal kits.

3.2.3 Data analysis

The data have been analysed by using SPSS Statistics 24. Since a distinction was made between the two types of meal kits and respondents only filled in the questionnaire for one of the types, descriptive statistics have been used to check whether the two samples could be considered equal based on the background characteristics (i.e. gender, age, highest attained educational level, work situation). If the samples appeared not to be equal, all tests should have been corrected for the differences in these background characteristics.

Next, the reliability of the scales for each construct needed to be confirmed ($\alpha > 0.70$ as threshold)². The reliability analysis showed that the scales were reliable and new variables were computed for the separate constructs as the mean of all scale items. This has been done for all constructs that are included in table 1. Even though IV had a α below 0.70, namely 0.663, it has been decided to use the preselected items for this construct based on theoretical foundations.

After computing the new variables, different tests were conducted. Firstly, the different assumptions have been checked per regression model. The assumptions of homoscedasticity and linearity have been tested with a plot of *ZRESID against *ZPRED. Multicollinearity is checked by investigating the VIF (< 10 as threshold)² and tolerance values (> 0.2 as threshold)². Moreover, the correlation between the different predictors has been tested with the help of a Pearson correlation matrix (< 0.9 as a threshold)². Whether the errors were normally distributed is checked by a Shapiro-Wilk test. The presence of outliers is reviewed by looking at the values of standardised residuals (not more than 5% of cases with a value of 2, not more than 1% of cases with a value > 2.5)² and Cook’s distance (< 1 as threshold)².

Next up, the different hypotheses have been tested. The first multiple linear regression is used to investigate the relations of the different constructs with attitude (hypotheses 3 up to 9). The following equation was used:

$$APMK = \beta_0 + \beta_1 * TESC_score + \beta_2 * TEOI_score + \beta_3 * TEMP_score + \beta_4 * IV_score + \beta_5 * VFM_score + \beta_6 * HMK_score (+ \beta_7 * SM_score, \text{ in case of online subscription})$$

In order to test the moderating effect of CO on the relationship between attitude and TESC, TEOI or TEMP, again a multiple linear regression is conducted. However, first three new interaction variables needed to be computed by multiplying the centred scores of each predictor (TESC, TEOI or TEMP) with the centred scores for CO. Moreover, since CO has been calculated by using centred scores, the centred scores for the predictors will be used³.

² As proposed as an acceptable threshold by Field (2009).

³ Following the guide of University Twente (2018), the dependent variable (APMK) does not need to be centred.

In order to test hypotheses 11, 12 and 13 the equation used was:

$$APMK = \beta_0 + \beta_1*TESC_censcore + \beta_2*TEOI_censcore + \beta_3*TEMP_censcore + \beta_4*IV_censcore + \beta_5*VFM_censcore + \beta_6*HMK_censcore + \beta_7*CO_TESC + \beta_8*CO_TEOI + \beta_9*CO_TEMP + \beta_{10}*CO_censcore (+ \beta_{11}*SM_censcore, in case of online subscription)$$

The next multiple linear regression has been conducted in order to test hypotheses 1, 14 and 15. Here, the effects of APMK, SN and MO on intention were tested with the following equation:

$$IPMK = \beta_0 + \beta_1*APMK_score + \beta_2*SN_score + \beta_3*MO_score$$

A simple linear regression has been used in order to test hypothesis 2, which entails the effect of IPMK on APB:

$$APB = \beta_0 + \beta_1*IPMK_score$$

Next, independent samples t-tests have been conducted for hypotheses 10.1 up to 10.6. Here, it was tested whether consumers had significantly different perceptions of the included product attributes (TESC, TEOI, TEMP, IV, VFM) for the two types of meal kits. This was done by checking whether the two means of the different meal kits were statistically different or not.

Lastly, serial mediation analyses have been conducted in order to test whether IPMK indeed acts as mediator between APMK and APB. For this, the macro PROCESS⁴ has been used following model 4 with the incorporation of SN and MO as covariates.

⁴ Version 3.3 (released 3rd February 2019) as developed by Hayes (2017).

4. Results

Within this chapter the results of the research are described. Firstly, the samples per meal kit type have been analysed based on socio-demographics. Next, the different hypotheses have been tested.

4.1 Participants

In total, 350 people participated in the research. After deleting partial responses, 316 respondents remained of which 156 filled in the survey for the online subscription meal kits and 160 completed the questionnaire for the offline meal kits. A frequency table has been derived based on the socio-demographical questions in the survey, see table 2.

In order to check the gender ratio in the two samples, a Chi-square test of independence has been used which showed that gender and type of meal kit were not significantly related ($X^2(1) = 0.159, p > 0.05$). So, no significant differences in gender were found between the two samples. The age ratio has been checked via both a Chi-square test on the categorised variable ($X^2(3) = 0.830$) as well as via an independent samples t-test on the continuous variable ($t(314) = 0.089$). Both tests resulted in insignificant differences between the two meal kit types ($p > 0.05$ in both tests). Regarding highest level of educational attainment, a Chi-square test proved insignificant as well ($X^2(3) = 1.784, p > 0.05$). Lastly, the differences in working situation between the two types of meal kits were insignificant too ($X^2(3) = 0.898, p > 0.05$). To sum up, the analyses showed that the two samples did not significantly differ from each other for each of the social demographics. Therefore, no corrections were needed for the samples in the following tests.

	Online subscription		Offline meal kit		P-value (X^2)
Gender	N	Percent	N	Percent	
Male	52	33.3	50	31.3	
Female	102	65.4	108	67.5	
Total	154	100	158	100	0.690
Age	N	Percent	N	Percent	
18 – 27 years old (generation Y)	104	66.7	107	66.9	
28 – 43 years old (generation X)	20	12.8	18	11.3	
44 – 60 years old (baby boomers)	22	14.1	27	16.9	
61+ years old (silent generation)	10	6.4	8	5.0	
Total	156	100	160	100	0.842
Age*	M	SD	M	SD	
	31.19	13.78	31.05	14.64	0.929
Highest level of educational attainment	N	Percent	N	Percent	
Secondary education (voortgezet)	19	12.3	28	17.6	
Intermediate vocational education (mbo)	9	5.8	9	5.7	
Higher vocational education (hbo)	56	36.1	53	33.3	
University (wo)	71	45.8	69	43.4	
Total	155	100	159	100	0.618
Working situation	N	Percent	N	Percent	
Student	83	53.2	86	53.8	
Fulltime	40	25.6	42	26.3	
Part-time	18	11.5	21	13.1	
Other	15	9.6	11	6.9	
Total	156	100	160	100	0.826

Table 2. Frequencies of social demographics.

* conducted via an independent samples T-test.

4.2 Hypothesis testing

In order to test the different hypotheses, separate data analysis has been done for each of the meal kit types. By testing this per type, conclusions have been drawn for either online subscription or offline meal kits. An exemption to this, was the testing of hypothesis 10. Since this hypothesis was focussed on the differences in attribute perceptions between the two meal kits, analysis has been run over both groups simultaneously. Moreover, hypothesis 9 regarding the perception of the subscription model was only relevant for respondents of online subscription meal kits, so this has only been tested for this meal kit type. Lastly, assumptions have been checked before every analysis. Reporting regarding the different assumption checks can be found in Appendix 3.

4.2.1 Attribute perceptions on attitude

Firstly, hypotheses 3 up to 8 were tested by conducting the following multiple linear regression for the offline meal kits:

$$APMK = \beta_0 + \beta_1 * TESC_score + \beta_2 * TEOI_score + \beta_3 * TEMP_score + \beta_4 * IV_score + \beta_5 * VFM_score + \beta_6 * HMK_score$$

It showed that the model explained 44.8% of the variance in attitude score ($F(6, 153) = 20.68$, $p < 0.05$; $R^2 = 0.448$). The output can be found in table 3. It can be seen that the constructs TEOI, VFM and HMK had a significant positive effect on APMK ($\beta = 0.215 / 0.300 / 0.204$ respectively, $p = 0.020 / 0.000 / 0.006$ respectively). Therefore, hypotheses 4, 7 and 8 were confirmed. A more positive attribute perception regarding time and effort saving on practice of obtaining ingredients, value for money or healthiness of the offline meal kits led to a more positive attitude towards purchasing offline meal kits. Checking the standardised beta coefficients shows that VFM is the strongest predictor of APMK, followed by HMK.

In contrast, the constructs TESC, TEMP and IV did not have a significant effect on APMK ($\beta = 0.026 / 0.026 / 0.035$ respectively, $p = 0.630 / 0.761 / 0.602$ respectively). Therefore, hypotheses 3, 5 and 6 could not be confirmed.

	Online subscription				Offline meal kit			
	Un. Beta	St. Beta	SE	P	Un. Beta	St. Beta	SE	P
(Constant)	-0.563	.	0.381	0.141	0.150	.	0.346	0.665
TESC	0.219	0.244	0.055	0.000*	0.026	0.034	0.055	0.630
TEOI	-0.010	-0.008	0.083	0.902	0.215	0.205	0.091	0.020*
TEMP	0.035	0.028	0.087	0.688	0.026	0.029	0.086	0.761
IV	0.194	0.173	0.074	0.010*	0.035	0.037	0.067	0.602
VFM	0.377	0.425	0.056	0.000*	0.300	0.415	0.050	0.000*
HMK	0.090	0.078	0.077	0.239	0.204	0.185	0.074	0.006*
SM	0.174	0.184	0.062	0.005*

Table 3. Linear model of attribute perceptions as predictors of attitude.

* significant at the 0.05 level.

For the online subscription meal kits, hypotheses 3 up to 9 have been tested with the following linear regression:

$$APMK = \beta_0 + \beta_1 * TESC_score + \beta_2 * TEOI_score + \beta_3 * TEMP_score + \beta_4 * IV_score + \beta_5 * VFM_score + \beta_6 * HMK_score + \beta_7 * SM_score$$

This model explained 55.3% of the variance in attitude score ($F(7, 148) = 26.20$, $p < 0.05$; $R^2 = 0.553$). This output can also be found in table 3. Analysis showed that TESC, IV, VFM and SM had a significant positive effect on APMK ($\beta = 0.219 / 0.194 / 0.377 / 0.174$

respectively, $p = 0.000 / 0.010 / 0.000 / 0.005$ respectively), confirming hypotheses 3, 6, 7 and 9. It can be stated that a more positive attribute perception regarding the attributes of the time and effort saving on cooking, inspiration and variation, value for money and subscription model led to a more positive attitude towards purchasing online subscription meal kits. Again, VFM proved the strongest predictor, this time followed by TESC. On the other hand, hypotheses 4, 5 and 8 could not be confirmed since the effects of time and effort saving regarding both obtaining ingredients and meal planning plus healthiness of the meal kits proved insignificant on attitude ($p > 0.05$).

4.2.2 Convenience orientation

Next, the moderating effect of CO on the relationship between attitude and TESC, TEOI or TEMP has been tested with the following equation for offline meal kits:

$$APMK = \beta_0 + \beta_1 * TESC_censcore + \beta_2 * TEOI_censcore + \beta_3 * TEMP_censcore + \beta_4 * IV_censcore + \beta_5 * VFM_censcore + \beta_6 * HMK_censcore + \beta_7 * CO_TESC + \beta_8 * CO_TEOI + \beta_9 * CO_TEMP + \beta_{10} * CO_censcore$$

It showed that the model explained 46% of the variance in attitude score ($F(10, 149) = 12.715$, $p < 0.05$; $R^2 = 0.46$). Table 4 shows the output of the test. It can be seen that CO does not significantly influence the effects of TESC, TEOI and TEMP on attitude towards offline meal kits, since the interaction variables CO_TESC, CO_TEOI and CO_TEMP were all insignificant ($\beta = -0.007 / -0.062 / 0.034$ respectively, $p = 0.881 / 0.446 / 0.628$ respectively). Therefore, hypotheses 11, 12 and 13 could not be confirmed in the case of offline meal kits.

	Online subscription			Offline meal kit		
	Un. Beta	SE	P	Un. Beta	SE	P
(Constant)	2.892	0.057	0.000*	3.179	0.057	0.000*
TESC_cen	0.224	0.055	0.000*	0.010	0.057	0.855
TEOI_cen	-0.132	0.092	0.154	0.190	0.094	0.047*
TEMP_cen	0.121	0.093	0.195	0.031	0.090	0.728
IV_cen	0.178	0.073	0.016*	0.036	0.067	0.591
VFM_cen	0.372	0.055	0.000*	0.304	0.051	0.000*
HMK_cen	0.097	0.076	0.203	0.186	0.075	0.015*
SM_cen	0.163	0.062	0.009*	.	.	.
CO_cen	0.000	0.052	0.999	0.086	0.049	0.079
CO_TESC	-0.044	0.051	0.386	-0.007	0.045	0.881
CO_TEOI	-0.194	0.071	0.007*	-0.062	0.082	0.446
CO_TEMP	0.189	0.075	0.013*	0.034	0.070	0.628

Table 4. Linear model of centred attribute perceptions as predictors of and moderation on attitude.

* significant at the 0.05 level.

For online subscription meal kits, the centred scores of SM were also included in the model. Therefore, the equation used was as such:

$$APMK = \beta_0 + \beta_1 * TESC_censcore + \beta_2 * TEOI_censcore + \beta_3 * TEMP_censcore + \beta_4 * IV_censcore + \beta_5 * VFM_censcore + \beta_6 * HMK_censcore + \beta_7 * SM_censcore + \beta_8 * CO_TESC + \beta_9 * CO_TEOI + \beta_{10} * CO_TEMP + \beta_{11} * CO_censcore$$

This model explained 58.2% of the variance in attitude score ($F(11, 144) = 18.247$, $p < 0.05$; $R^2 = 0.582$). The output of the analysis can also be found in table 4. Analysis showed that CO_TESC did not significantly affect the relationship between TESC and APMK ($\beta = -0.044$, $p = 0.386$). Therefore, hypothesis 11 could not be confirmed for online subscription meal kits. Next, CO_TEOI did have a negative significant effect on the relationship between TEOI and APMK ($\beta = -0.194$, $p = 0.007$). In other words, a positive time and effort saving

perception on obtaining ingredients apparently lowered someone's attitude towards online subscription meal kits. Since hypothesis 12 expected a positive effect, hypothesis 12 could not be confirmed.

Lastly, CO_TEMP had a positive significant effect on the relationship between TEMP and APMK ($\beta = 0.189$, $p = 0.013$). Therefore, hypothesis 13 is confirmed in the case of online subscription meal kits. So, convenience orientation acted as a moderator and strengthened the relationship between someone's attribute perception of the time and effort saving on the practice of meal planning and someone's attitude towards purchasing online subscription meal kits.

4.2.3 Purchase intention

The third test focused on the effects of APMK, SN and MO on someone's intention to purchase either offline or online meal kits. The following equation has been used for both types of meal kits:

$$IPMK = \beta_0 + \beta_1 * APMK_score + \beta_2 * SN_score + \beta_3 * MO_score$$

In the case of offline meal kits, it showed that the model explained 49.3% of the variance in intention score ($F(3, 156) = 50.6$, $p < 0.05$; $R^2 = 0.493$). The output can be found in table 5. It can be seen that for offline meal kits a more positive attitude had a positive effect on purchase intention ($\beta = 0.729$, $p = 0.000$). The same goes for subjective norms; when people experienced positive subjective norms, this increased their purchase intention ($\beta = 0.477$, $p = 0.000$). The effect of moral obligation on IPMK also turned out to be significant in the case of offline meal kits; when people felt a high sense of moral obligation, this lowered their IPMK ($\beta = -0.201$, $p = 0.036$). These effects were all significant and therefore hypotheses 1, 14 and 15 could be confirmed for offline meal kits.

	Online subscription			Offline meal kit		
	Un. Beta	SE	P	Un. Beta	SE	P
(Constant)	0.168	0.354	0.635	0.447	0.434	0.305
APMK	0.832	0.104	0.000*	0.729	0.110	0.000*
SN	0.212	0.104	0.043*	0.477	0.090	0.000*
MO	-0.104	0.085	0.224	-0.201	0.095	0.036*

Table 5. Linear model of APMK, SN and MO as predictors of IPMK.

* significant at the 0.05 level.

For online subscription meal kits, the model explained 40% of the variance in intention score ($F(3, 152) = 33.76$, $p < 0.05$; $R^2 = 0.400$). Both APMK and SN also appeared to have a positive significant effect on IPMK ($\beta = 0.832$ and 0.212 respectively, $p = 0.000$ and 0.043 respectively). The more positive someone's attitude towards online subscription meal kits or the perceived subjective norms, the higher someone's IPMK. However, MO did not significantly affect IPMK for online subscription meal kits ($\beta = -0.104$, $p = 0.224$). Therefore, only hypotheses 1 and 14 could also be confirmed in the case of online subscription meal kits.

Moreover, mediation analyses have been conducted per meal kit type in order to test whether IPMK actually mediated the relationship between APMK and APB (figure 4 and 5). As a first step, the association between APMK and IPMK with the presence of MO and SN as covariates was examined for both offline and online subscription meal kits. For both types of meal kits APMK could significantly predict IPMK ($t = 6.654$, $p = 0.000$ and $t = 7.986$, $p = 0.000$ respectively). After incorporating IPMK in the model, IPMK proved to be significant in predicting APB for both offline ($t = 3.482$, $p = 0.001$) and online meal kits ($t = 2.052$, $p =$

0.042) while APMK became insignificant on APB ($t = 0.055$, $p = 0.956$ and $t = 1.386$, $p = 0.168$ respectively). Thirdly, the direct and indirect effects of APMK on APB have been analysed. This again confirmed that APMK did not directly affect APB for both offline ($t = 0.055$, $p = 0.956$; 95% CI [-0.520, 0.549]) and online subscription meal kits ($t = 1.386$, $p = 0.168$; 95% CI [-0.109, 0.6225]). However, significant indirect effects of APMK on APB via IPMK were present for both offline (95% CI [0.208, 0.752], $b = 0.443$) and online subscription meal kits (95% CI [0.073, 0.383], $b = 0.257$). Therefore, full mediation of IPMK has been confirmed for both meal kit types; IPMK fully mediates the relationship between APMK and APB.

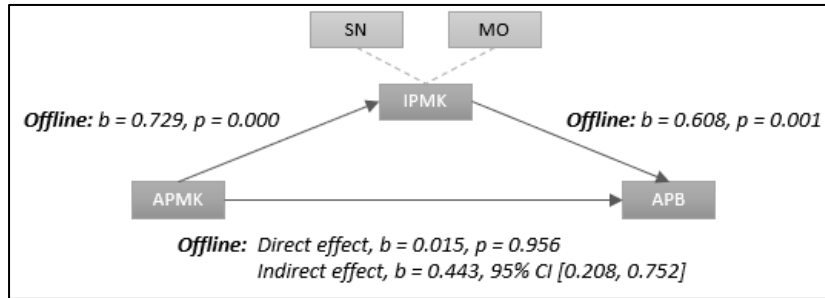


Figure 4. Mediation analysis of IPMK on the relationship between APMK and APB for offline meal kits.

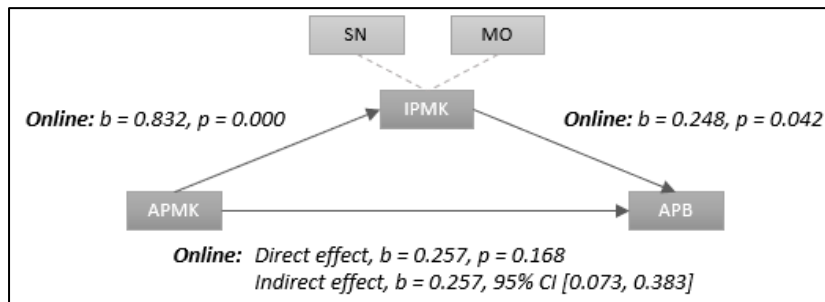


Figure 5. Mediation analysis of IPMK on the relationship between APMK and APB for online subscription meal kits.

4.2.4 Actual purchasing behaviour

Next, hypothesis 2 has been checked for both meal kit types via a simple linear regression with the following equation:

$$APB = \beta_0 + \beta_1 * IPMK_score$$

	Online subscription			Offline meal kit		
	Un. Beta	SE	P	Un. Beta	SE	P
(Constant)	0.404	0.280	0.152	0.092	0.478	0.849
IPMK	0.379	0.094	0.000*	0.715	0.124	0.000*

Table 6. Linear model of IPMK as predictor of APB.

* significant at the 0.05 level.

Table 6 shows the combined output of significance of IPMK on APB. For both offline and offline subscription meal kits, the model only accounted for respectively 17.4% and 9.6% of the variance in actual purchasing behaviour. Since these percentages were relatively low, a Pearson correlation test has been conducted. For offline meal kits, this resulted in a correlation of 0.417 and for online subscription meal kits in 0.310. This confirmed the fact that IPMK and APB are not that strongly correlated.

Both for offline and online subscription meal kits, IPMK did positively and significantly affect APB ($\beta = 0.715$, $p = 0.000$ for offline meal kits and $\beta = 0.379$, $p = 0.000$ for online subscription), providing support for hypothesis 2. So, a positive intention towards the meal kits led to a higher chance of actual purchasing behaviour.

4.2.5 Online subscription vs. offline meal kit

Lastly, independent samples t-tests have been conducted in order to check hypotheses 10.1 up to 10.6. The output of the different tests has been combined in table 7. Firstly, the differences in time and effort saving have been checked. The difference in TESC between online subscription (M = 2.959, SD = 0.995) and offline meal kits (M = 3.188, SD = 1.099) was insignificant, $t(314) = -1.931$, $p > 0.05$. So, these results suggest that there is no significant difference between someone's perception of time and effort saving on cooking for the two meal kit types.

	Online subscription		Offline meal kit		t	df	P
	M	SD	M	SD			
TESC	2.959	0.995	3.188	1.099	-1.931	314	0.054
TEOI	4.308	0.719	4.319	0.806	-0.129	314	0.898
TEMP	4.370	0.715	4.167	0.925	2.186	298.6	0.030*
IV	3.850	0.798	3.400	0.897	4.711	314	0.000*
VFM	2.794	1.007	3.356	1.173	-4.567	309.1	0.000*
HMK	4.071	0.771	4.163	0.768	-1.062	314	0.289

Table 7. Differences in attribute perceptions between meal kit types.

* significant at the 0.05 level.

When looking at TEOI, the difference in mean perception of time and effort needed for obtaining ingredients between online subscription (M = 4.308, SD = 0.719) and offline meal kits (M = 4.319, SD = 0.806) was also insignificant, $t(314) = -0.129$, $p > 0.05$. Therefore, hypothesis 10.2 could not be confirmed since there are no significant differences in perception of time and effort saving on obtaining ingredients between the two meal kit types.

In contrast, the difference in mean perception of TEMP between online subscription (M = 4.370, SD = 0.715) and offline meal kits (M = 4.167, SD = 0.925) was significant, $t(298.6) = 2.186$, $p < 0.05$. Please note, that equal variances could not be assumed for this construct (Levene's $P = 0.016$). From this, it can be deducted that people perceive online meal kits more positively in terms of time and effort saving characteristics regarding meal planning than offline meal kits.

Next, the difference in mean perception of IV offered by the meal kit between online subscription (M = 3.85, SD = 0.798) and offline meal kits (M = 3.4, SD = 0.897) was also significant, $t(314) = 4.711$, $p < 0.05$. So, people perceived online meal kits to offer more inspiration and variation compared to offline meal kits. This difference in inspiration and variation was not hypothesised in the theoretical framework.

Moreover, the difference in mean perception of VFM offered by the meal kit between online subscription (M = 2.794, SD = 1.007) and offline meal kits (M = 3.356, SD = 1.173) was significant as well, $t(309.1) = -4.567$, $p < 0.05$. Again, equal variances could not be assumed (Levene's $P = 0.018$). These results suggested that respondents perceived VFM offered by the meal kit to be more positive for offline meal kits, confirming hypothesis 10.5.

Lastly, the difference in mean perception of HMK of the meal kit between online subscription (M = 4.071, SD = 0.771) and offline meal kits (M = 4.163, SD = 0.768), proved insignificant, $t(314) = -1.062$, $p > 0.05$. So, there were no significant differences in healthiness perception between the two meal kit types.

5. Conclusion and discussion

Firstly, this chapter contains the conclusion of the conducted research. In addition, the findings are discussed in light of both academic and practical relevance. Moreover, limitations and future research opportunities are taken up. Lastly, the chapter ends with some final remarks.

5.1 Conclusion

This research aimed at answering the following research question: *‘What drives consumers’ purchase behaviour regarding either online subscription or offline meal kits?’*. As already firmly established in current literature, this research again supported the fact that someone’s attitude positively affects their intention and consequently, actual purchasing behaviour; also in the case of online subscription and offline meal kits.

When zooming in on attribute perceptions, this research revealed that for the two meal kit types different attributes are relevant in the decision making process. For online subscription meal kits, someone’s perception regarding time and effort saving on cooking, inspiration and variation, value for money and subscription model positively influence their attitude towards purchasing an online meal kit. Even though value for money also proved relevant for offline meal kits, someone’s perception of time and effort saving on obtaining ingredients and healthiness of the meal kit in this case showed to positively influence someone’s attitude towards purchasing offline meal kits.

Moreover, comparison between the two meal kit types regarding the different attribute perceptions showed that online subscription meal kits are more positively evaluated regarding their inspiration and variation offering than offline meal kits, something that was not hypothesised beforehand. On the other hand, consumers perceive offline meal kits to offer better value for money. Interestingly, it was hypothesised that online subscription meal kits would be perceived better in terms of time and effort saving characteristics in obtaining ingredients. However, analysis showed no significant differences. This could be explained via output from the qualitative research, where a respondent mentioned the downside of having to stay at home in order to receive the meal kit. Next, even though the characteristic of time and effort saving on meal planning was also more positively evaluated in the case of online subscription meal kits, this attribute did not lead to a more positive attitude. Therefore, this difference can be considered irrelevant when looking at the complete decision making process. The same goes for the positively moderating effect of convenience orientation. This effect was only present on the relationship between time and effort saving on meal planning and attitude towards online subscription meal kits, but again irrelevant in the whole purchasing process since time and effort saving on meal planning did not significantly affect someone’s attitude towards meal kits.

Lastly, the effects of subjective norms and moral obligation on someone’s intention to purchase either online subscription or offline meal kits need to be discussed. The current research provides strong support that the presence of positive subjective norms increases someone’s intention to purchase either one of the meal kit types. However, in the case of offline meal kits, someone’s intention was lowered when they experienced feelings of moral obligation. Therefore, including these concepts separately in the conceptual framework has been justified.

5.2 Academic relevance

As stated earlier, some applied market research has already been conducted in the setting of online subscription meal kits. The current study, to the researcher’s best knowledge, is one of

the first in taking a look at the meal kit concept from an academic perspective. This research applied and (partially) confirmed TRA and TPB in the context of both online subscription and offline meal kits; both attitude and subjective norms affect someone's intention and consequently, purchasing behaviour regarding both online subscription and offline meal kits. Perceived behavioural control was not included in the current conceptual framework.

The current study showed that intention fully mediated the relationship between attitude and actual purchasing behaviour, again supporting TPB. However, the current research also revealed that intention only explained a small portion of the variance in purchasing behaviour. This suggests that there are more constructs underlying someone's purchasing behaviour. Apparently, having a positive attitude or the intention to purchase meal kits does not automatically lead to actually purchasing the meal kit. These attitude-intention and intention-behaviour gaps are already often found in consumer research, for instance in the setting of technology usage and green consumption (e.g. Bhattacharjee & Sanford, 2009; Johnstone & Tan, 2015). The current study shows that these gaps are also present in the setting of both online subscription and offline meal kits and calls for an expansion of the TPB.

Lastly, this research contributes to literature regarding subjective norms and moral obligation. Whereas previous research mostly focused on injunctive norms, i.e. the influence of someone's perception of the opinion others might have regarding their behaviour, the current study adds that combining both injunctive and descriptive norms, i.e. someone's perception of the frequency of likewise behaviour by others, also affects intention. In addition, this study provides support for incorporating feelings of moral obligation in the TPB, since this also affected intention next to attitude and subjective norms.

5.3 Practical implications

Firstly, this study provides clear insight into the factors that are relevant in attitude formation and purchases of both types of meal kits. For the different players in the meal kit market it is important to understand the decision making process of consumers in order to be able to increase their sales. Most importantly, meal kit providers need to take into account that someone's attitude predicts someone's actual purchasing behaviour via intention. So, in order to increase sales, they have to positively influence someone's attitude towards the meal kit. Since someone's attitude is the sum of multiple attribute perceptions, meal kit providers should focus on these attribute perceptions. The relevant attributes differ per meal kit type. For offline meal kits, meal kit providers should most importantly focus on value for money, but also on the ease of collecting ingredients and making sure their meal kits are healthy. For online subscription meal kits, providers should focus on inspiration and variation and the ease of using an online subscription model. Please note, that the value for money perception proved most influential on attitude for both types of meal kits and therefore is the most important attribute. Moreover, all meal kit providers should be aware of the influence of positive subjective norms on intention and consequently, actual purchasing behaviour. When more and more people make use of their meal kit, this will most probably result in a snowball effect since others will interpret this behaviour as support for them to purchase the meal kit as well.

From this, concrete recommendations can also be drawn up for marketers of both offline and online subscription meal kits. Since different attribute perceptions proved relevant for the two meal kit types, it is wise to adjust the advertising messages to the relevant attributes. For instance, companies such as HelloFresh could focus their communication on the fact that their product offers better inspiration and variation and the ease of using an

online subscription model. Retailers with offline meal kits on the other hand, could communicate about their superior value for money offering, the ease of collecting your ingredients or the healthiness of their meal kits. The current research provides strong support that this would enhance the sales for both meal kit types.

Moreover, this study mapped the differences in attribute perceptions between online subscription and offline meal kits. This comparison is especially relevant nowadays, since offline meal kits gain in popularity and traditional online subscription meal kit companies decide to offer their product in brick and mortar supermarkets as well (DistriFood, 2018). Knowing these differences, can guide meal kit providers in their business strategies.

5.4 Limitations and future research

Although this study gives a clear academic insight in the setting of meal kits, there are a number of limitations that can be addressed in future research. Firstly, the construct of actual purchasing behaviour was measured by asking how often one had purchased either online subscription or offline meal kits during the past month. This resulted in a lot of zero-entries, especially for online subscription meal kits. Due to this, the assumption checks on this construct could not be confirmed and validity and reliability regarding this construct are up for discussion. Future research could prevent this issue by either broadening the timeframe in the questioning, e.g. during the past year instead of month, or by collaborating with a partner such as HelloFresh to gain access to their customer database. Moreover, in the current study an extra question could have been added, asking respondents whether they ‘ever’ used meal kits, indicating their user status.

Another reason why a lot of zero-entries were encountered, could be the fact that roughly 60% of respondents were aged between 18 and 27 years old. It could be argued that this group makes less use of (online subscription) meal kits, and do not belong to the target group. Since the age division among respondents can be considered skew, the generalisability of the results is lowered. Future research could be conducted within specific age groups, for instance the main target group of meal kits, to gain a more detailed insight in their decision making process.

Lastly, when looking at the overall model fit, it shows that the included attribute perceptions in combination with convenience orientation account for roughly 50% of variance in attitude. This indicates future research possibilities, especially via qualitative methods, where one could investigate other constructs that influence someone’s attitude forming process in the setting of meal kits.

5.5 Final remarks

This study provides a clear academic insight into the concept of meal kits, where a combination of both qualitative and quantitative research has revealed relevant aspects of consumers purchasing behaviours regarding both online subscription and offline meal kits. It showed that perceptions of different attributes influence someone’s attitude for both meal kit types. Marketeers of the different meal kit types could adjust their advertising messages to the unique selling points of their meal kit in order to generate more sales.

Moreover, this study compared the different attribute perceptions between the two meal kit types, where online subscription meal kits apparently offer better inspiration and variation, while offline meal kits present better value for money in the eyes of consumers. In short, the current research provides a strong foundation for future academic research regarding meal kits.

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Appendices

Appendix 1 In-depth interviews

Topic guide

- Inleiding
- Definitie meal kits, plus vragen naar onduidelijkheden.
- Ben je hiermee bekend?
- Heb je het weleens gebruikt?
- Wat zijn positieve aspecten waardoor jij zo'n box zou kopen / hebt gekocht?
- Wat houdt je tegen, wat zijn negatieve punten?
- Kan je deze punten rangschikken, wat weegt het zwaarst?
- Afsluiting

Interview 1

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse producten en recepten bevatten om jou te helpen in het bereiden van vers gekookte maaltijden, zonder zelf de boodschappen te hoeven doen of de aparte ingrediënten te hoeven verzamelen. Daarnaast hoef je de maaltijden niet zelf te bedenken. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Mooi. Dan de eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja, die ken ik wel.

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja, ik heb een tijdje een abonnement gehad bij HelloFresh. Tegenwoordig niet meer.

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Ten eerste is het heel handig dat alle ingrediënten zijn afgemeten voor 1 persoon. Aangezien ik alleen woon, heb je dan precies genoeg en gooi je ook niet veel weg. Daarnaast is het ook gezonder dan wanneer ik het zelf zou bedenken, dan is iets in de frituur gooien vaak het makkelijkst. Het is ook heel prettig dat het bij de deur wordt afgeleverd en je zelf geen boodschappen hoeft te doen.

Zijn er ook negatieve aspecten te benoemen?

Respondent: Zeker. Ik vond het lastig dat je op bepaalde tijden thuis moest zijn om het pakket aan te nemen. Je kon wel zelf een tijdvak kiezen, maar dan was dat tussen 10 en 14.00u, nog steeds erg breed. Ook zit je vast aan de recepten die zij je opleggen en na een tijdje merkte ik dat de variatie eruit was. Daarnaast is het lastig wanneer je onverwacht bij vrienden gaat eten,

want dan heb je een maaltijd over. Die kon je niet altijd bewaren voor later. Qua prijs ligt zo'n box ook iets hoger dan wanneer je het zelf haalt, maar dat scheelde niet zoveel. Het lastigste was echter dat de kwaliteit soms de wensen over liet. Het is fijn dat ingrediënten afgemeten zijn, maar een halve krop sla blijft bijvoorbeeld veel minder lang goed. Als je zelf je boodschappen haalt, kan je bovendien de dag erna nog die andere helft van de sla gebruiken.

Bedoel je dan dat de prijs-kwaliteit verhouding soms tegenviel?

Respondent: Ja precies. De prijs zelf viel wel mee, maar het was soms irritant om met verpieterde ingrediënten te zitten.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Ja hoor. Op een staat het gemak. Het feit dat het bij je wordt afgeleverd, dat je niet na hoeft te denken over wat je gaat eten, dat de receptuur erbij zit en alles voor 1 persoon is afgemeten. Op twee staat het gezonde aspect. De reden dat ik ermee gestopt ben, is het feit dat er weinig variatie was op ten duur, dus die zou ik op drie zetten. Daarna een meer neutraal iets, dat je verplicht bent om te eten. Aangezien ik alleen ben, schiet dat er weleens bij in omdat ik geen zin heb om te koken. Aan de ander kant is het ook negatief wanneer je bij vrienden wilt eten. Als laatste het feit dat je op specifieke tijden thuis moest zijn, valt ook wel omheen te plannen, maar wel onhandig.

En waar zou je prijs-kwaliteit dan plaatsen?

Respondent: Ooh ja, euhm, dat is toch wel vrij belangrijk. Ik baalde daar soms echt van. Ik zou die denk ik tussen variatie en verplicht om te eten zetten, dus op 4.

Dat waren alle vragen, bedankt voor je hulp!

Interview 2

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse producten en recepten bevatten om jou te helpen in het bereiden van vers gekookte maaltijden, zonder zelf de boodschappen te hoeven doen of de aparte ingrediënten te hoeven verzamelen. Daarnaast hoef je de maaltijden niet zelf te bedenken. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: jazeker

Zowel online boxen als verspakketten?

Respondent: Ja, een tijdje geleden toen ik bij M&I werkte, had ik een abonnement bij Marley Spoon. Tegenwoordig haal ik wel eens een verspakket bij Albert Heijn.

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: je hebt snel een verse maaltijd op tafel, dat is prettig. Ook hoeft je geen boodschappen te doen. Koken vind ik niet zo erg, maar ik heb een hekel aan boodschappen doen. Ooh, ik vind het ook leuk dat je nieuwe recepten uitprobeert, een inspiratiebron. Bij de verspakketten van Albert Heijn vind ik de prijs ook positief, ik heb niet het idee dat ik opgelicht wordt en veel meer kwijt ben dan wanneer ik alles los haal. Bij Marley Spoon vond ik het daarentegen wel prijzig, daar was je zo'n 7 a 8 euro per persoon per maaltijd kwijt. Terwijl ik zelf vaak kook voor 7 a 8 euro voor twee personen.

Zijn er ook negatieve aspecten te benoemen?

Respondent: ja, ik vond Marley Spoon dus echt wel duur. Daarentegen was de kwaliteit van Marley Spoon wel beter dan de verspakketten. De pakjes kruiden daarin vind ik soms te zout, al is het niet zo erg dat ik ze niet meer koop. Ook zat er een keer een rotte tomaat in, als dat vaker voorkomt, zou ik ze niet meer halen. Ooh en ik vond het een groot nadeel dat je bij Marley Spoon aan een abonnement vast zat voor een vast aantal dagen, namelijk 2, 3 of 4 geloof ik. Ik had bijvoorbeeld een abonnement voor 3 dagen, maar je hebt niet elke week 3 maaltijden nodig. Soms meer, soms minder. Dat kon je niet aanpassen, heel irritant, totaal niet flexibel.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Op een wel echt het gemak dat je geen boodschappen hoeft te doen. Koken vind ik niet erg, maar die boodschappen zijn verschrikkelijk. Daarna de prijs voor de Marley Spoon boxen, dat vond ik erg duur. Op drie de vaste aantal dagen bij het abonnement. Vervolgens de leuke, nieuwe recepten. Op vijf de pakjes kruiden, niet zo erg dat ik de pakketten niet meer koop. En als laatste dus dat het snel op tafel staat. Prettig, maar niet heel belangrijk voor mij omdat ik koken leuk vind.

Dat was het, dank je!

Interview 3

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse producten en recepten bevatten om jou te helpen in het bereiden van vers gekookte maaltijden, zonder zelf de boodschappen te hoeven doen of de aparte ingrediënten te hoeven verzamelen. Daarnaast hoeft je de maaltijden niet zelf te bedenken. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja

Zowel online boxen als verspakketten?

Respondent: Ik heb een keertje vier dagen HelloFresh gehad, verder koop ik wel eens verspakketten.

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Je hoeft niet te bedenken wat je gaat eten, dat is makkelijk. En het zijn lekkere recepten, die duidelijk beschreven zijn. Dus dat maakt het koken makkelijk. En alles zit in dat pakket, dus je hoeft niet te zoeken naar ingrediënten in de winkel.

Zijn er ook negatieve aspecten te benoemen?

Respondent: Ik vind vooral dat er heel veel plastic omheen zit. En de pakketten zijn duurder dan wanneer je het los haalt.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Het belangrijkste vind ik het gemak, zowel qua koken als boodschappen doen. Ik vind het wel slecht dat er veel plastic omheen zit. Op drie zou ik de lekkere recepten zetten. En als laatste het feit dat ze duurder zijn, maar het scheelt niet zo veel dat ik ze niet meer koop. Op drukke dagen is het het geld wel waard.

Dat waren de vragen, dank je voor je hulp!

Interview 4

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse producten en recepten bevatten om jou te helpen in het bereiden van vers gekookte maaltijden, zonder zelf de boodschappen te hoeven doen of de aparte ingrediënten te hoeven verzamelen. Daarnaast hoeft je de maaltijden niet zelf te bedenken. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja

Zowel online boxen als verspakketten?

Respondent: alleen verspakketten, de online boxen heb ik nog nooit geprobeerd

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Het fijnst is dat alles in één zit, je hoeft niet te zoeken naar ingrediënten. Daarnaast zijn het verse producten en zitten er lekkere recepten tussen. Het is ook handig dat het afgepast is, dus je hebt niet te veel eten. Dat is het denk ik wel.

Zijn er ook negatieve aspecten te benoemen?

Respondent: Over die online boxen heb ik gehoord dat het erg lastig is om van het abonnement af te komen, dat lijkt mij een groot nadeel. Daarnaast heb je beperkte keuzevrijheid in de gerechten die je eet. Ook zijn die boxen online vaak best duur, die verspakketten zijn nog wel te betalen, scheelt niet heel veel, zeker niet als je ze in de bonus haalt. Verder kan je niet zelf je ingrediënten selecteren, dus krijg je misschien producten van mindere kwaliteit.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Het belangrijkste vind ik het feit dat het vers eten is. Maar een groot nadeel is de prijs, dus die zou ik op twee zetten. Op drie het feit dat het alles in één is. Hmm, daarna dan dat je niet zelf je ingrediënten kan selecteren, wel een beetje tegenstrijdig haha. Op vijf de abonnementsvorm, een belangrijke reden waarom ik online boxen niet geprobeerd heb. Dan het feit dat ingrediënten afgemeten zijn. En als laatste de beperkte keuzes, er zit vast wel iets tussen wat je best lekker lijkt.

Dat waren de vragen, dank je voor je hulp!

Interview 5

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse producten en recepten bevatten om jou te helpen in het bereiden van vers gekookte maaltijden, zonder zelf de boodschappen te hoeven doen of de aparte ingrediënten te hoeven verzamelen. Daarnaast hoef je de maaltijden niet zelf te bedenken. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja

Zowel online boxen als verspakketten?

Respondent: alleen verspakketten

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Vooral het gemak. Je hoeft niet meer naar de winkel en niet meer te bedenken wat je gaat eten. Dat vind ik altijd zo'n gedoe. Daarnaast eet je dan gevarieerder en vooral ook nieuwe dingen. Doordat het afgemeten is, heb je ook minder verspilling.

Zijn er ook negatieve aspecten te benoemen?

Respondent: Ik heb vooral het idee dat ze een stuk duurder zijn dan wanneer je zelf kookt. En met HelloFresh zit je eraan vast, aan dat abonnement. En wat als je het eten niet lekker vindt? Ik ben ook wel een grote eter, dus ben benieuwd of de portiegrootte dan wel voldoet. Je hebt ook minder controle op de kwaliteit van producten, ik ben iemand die graag zijn eigen komkommer of paprika uitzoekt.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Doordat die online boxen zo duur zijn, heb ik die nog nooit aangeschaft, dus dat is voor mij wel heel belangrijk. Dan het gemak, zowel qua boodschappen als bedenken wat je gaat eten. Op drie het feit dat je aan zo'n abonnement vast zit. Dan minder controle op kwaliteit. Positief is dan het gevarieerder eten. Op zes de portiegrootte en op zeven het uitproberen van nieuwe dingen. Dan het feit dat je iets eventueel niet lekker vindt, volgens mij kan je wel tussen een paar opties kiezen. En als laatste minder verspilling.

Dat waren de vragen, dank je voor je hulp!

Interview 6

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse ingrediënten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja

Zowel online boxen als verspakketten?

Respondent: Ja, ik heb een tijdje de vegetarische box van HelloFresh gehad. Nu gebruik ik wel eens de verspakketten van Albert Heijn.

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Die vegetarische box heb ik toen gebruikt om eens meer vegetarische recepten te leren. Er zaten echt hele verrassende, leuke recepten tussen, sommige maak ik nu nog steeds. Verder is het vooral heel gemakkelijk, als ik het druk heb hoef je alleen maar even in de supermarkt zo'n pakket te pakken en het eten is geregeld. Je hoeft niet na te denken wat je gaat eten, ideaal, maar eet toch gezond en snel.

Zijn er ook negatieve aspecten te benoemen?

Respondent: Ik vond de pakketten van HelloFresh uiteindelijk toch wel duur, zeker gezien het feit dat het alleen maar groenten waren. Dat was bij de groenteboer goedkoper. Bovendien had ik uiteindelijk genoeg inspiratie om zelfstandig vegetarische gerechten op tafel te zetten. Ooh en het feit dat je aan een abonnement vast zat, vond ik lastig. Soms vergat ik het af te melden en werd er ineens een pakket bezorgd, terwijl ik daar niet op gerekend had. Volgens mij is dat tegenwoordig beter geregeld, maar oke.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: Het belangrijkste is het gemak voor mij, snel gezond eten op tafel. De recepten van HelloFresh waren echt leuk en weer eens wat anders, dus dat op twee. Op drie het feit dat het een abonnement was. Uiteindelijk ben ik gestopt omdat ik genoeg gerechten kende en ik het dus niet meer zo waardeerde en de prijs dan te hoog vond. Dus prijs daarna denk ik, want eerst woog inspiratie zwaarder dan prijs.

Dat waren de vragen, dank je voor je hulp!

Interview 7

Dankjewel dat je mee wilt werken aan dit korte interview. Het doel is om mijn theoretisch kader van mijn scriptie over maaltijdboxen te verifiëren. Het hele interview duur ongeveer vijf minuten.

Ten eerste leg ik je graag even de definitie van maaltijdboxen voor welke ik voor mijn scriptie hanteer: 'maaltijdboxen zijn pakketten die afgemeten en verse ingrediënten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Voorbeelden van maaltijdboxen zijn bijvoorbeeld HelloFresh of de verspakketten in de supermarkten.'

Is deze definitie duidelijk voor je?

Respondent: Ja.

Top, eerste vraag, ben je bekend met zulke maaltijdboxen?

Respondent: Ja

Heb je zelf wel eens gebruik gemaakt van maaltijdboxen?

Respondent: Ja

Zowel online boxen als verspakketten?

Respondent: Ja, ik heb een keer een proefabonnement van Marley Spoon gehad voor een week. Verder gebruik ik de verspakketten wel eens.

Wat zijn de positieve aspecten aan zo'n maaltijd box waardoor jij ze gekocht hebt?

Respondent: Dat proefabonnement klonk heel leuk, ik was heel benieuwd naar de recepten en of het nou echt zo makkelijk was als anderen zeiden. Het was inderdaad makkelijk, geen boodschappen meer doen, niet meer hoeven bedenken wat je de hele week eet, ideaal. En de recepten waren best lekker. Die verspakketten gebruik ik vooral als ik het druk heb, maar wel gezond wil eten. Zo'n pakket heb je snel gehaald.

Zijn er ook negatieve aspecten te benoemen?

Respondent: De reguliere prijs van Marley Spoon vond ik erg duur, vandaar dat ik nooit een echt abonnement heb afgesloten, het was leuk om een keer eenmalig te proberen. Vrienden van mij zijn er trouwens mee gestopt, omdat ze constant op een bepaald moment thuis moesten zijn. Pakketten werden dan in de tuin achter gelaten in de zon, dat vonden ze echt niet oke. Die verspakketten zijn trouwens prima te betalen, al ken je die gerechten op een gegeven moment ook wel. Het aanbod blijft vrij gelijk, al heb ik het idee dat de Albert Heijn steeds vaker de collectie wisselt.

Wanneer je naar al deze punten kijkt, kan je ze dan rangschikken? Welke punten wegen voor jou het zwaarst?

Respondent: De prijs van Marley Spoon woog voor mij heel zwaar, dus die op de eerste plaats. Dan de nieuwe recepten. Het feit dat je snel een gezonde maaltijd op tafel hebt, is wel echt ideaal. Op de derde plek het thuis moeten zijn op een vast moment. Dan het feit dat je niet meer hoeft te bedenken wat je gaat eten en als laatste dan dat de gerechten niet veel wisselen.

Dat waren de vragen, dank je voor je hulp!

Appendix 2 Survey flow

The survey flow can be found on the next pages. Please note that respondents saw either the description for online subscription or offline meal kits, not both. The rest of the survey was identical for both survey groups. Within the survey, piped text has been reported (i.e. $\{e://Field/Meal\%20kit\}$). Here, respondents either read online subscription meal kit [*online maaltijdbox*] or offline meal kit [*verspakket*].

Description - ONLINE SUBSCRIPTION MEAL KITS

Bedankt dat u deel wilt nemen aan dit onderzoek. De enquête zal ongeveer vijf tot tien minuten van uw tijd in beslag nemen en uw antwoorden zijn anoniem. U zult verschillende stellingen te zien krijgen, waarbij u aan kan geven in hoeverre u het hier mee eens bent.

Dit onderzoek focust zich op de beweegredenen waarom mensen maaltijdboxen aanschaffen. Maaltijdboxen zijn in dit geval te definiëren als: *'pakketten die afgemeten en verse producten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Om van deze pakketten gebruik te maken, neemt u online een abonnement af, waarbij de maaltijdboxen thuis bij u worden afgeleverd. Voorbeelden van dergelijke maaltijdboxen zijn bijvoorbeeld HelloFresh of Marley Spoon.'*



Is deze definitie duidelijk voor u?

- ☐ Ja
- ☐ Nee

Description - OFFLINE MEAL KITS

Bedankt dat u deel wilt nemen aan dit onderzoek. De enquête zal ongeveer vijf tot tien minuten van uw tijd in beslag nemen en uw antwoorden zijn anoniem. U zult verschillende stellingen te zien krijgen, waarbij u aan kan geven in hoeverre u het hier mee eens bent.

Dit onderzoek focust zich op de beweegredenen waarom mensen verspakketten aanschaffen. Verspakketten zijn in dit geval te definiëren als: *'pakketten die afgemeten en verse producten en recepten bevatten waarmee een vers gekookte maaltijd bereid kan worden. Deze pakketten kunt u individueel kopen in de supermarkt. Voorbeelden van dergelijke pakketten zijn bijvoorbeeld de verspakketten van Albert Heijn of Jumbo.'*



Is deze definitie duidelijk voor u?

- ☐ Ja
- ☐ Nee

Statements meal kits

Hoe vaak heeft u afgelopen maand $\{e://Field/Meal\%20kit\}$ gebruikt? Let op; het gaat hier om het aantal maaltijden dat u gekookt hebt met behulp van $\{e://Field/Meal\%20kit\}$, niet het aantal $\{e://Field/Meal\%20kit\}$ wat gekocht is.

▼

Vul de volgende vragen alstublieft in naar verwachting. Dus uw geschatte mening wanneer u wel $\{e://Field/Meal\%20kit\}$ zou gebruiken.

In hoeverre bent u het eens met de volgende stellingen?

	Oneens	Enigszins oneens	Neutraal	Enigszins eens	Eens
Ik eet diverser door het gebruik van $\{e://Field/Meal\%20kit\}$.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben van plan $\{e://Field/Meal\%20kit\}$ te kopen in de toekomst.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De $\{e://Field/Meal\%20kit\}$ bieden genoeg variatie in gerechten over tijd.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De $\{e://Field/Meal\%20kit\}$ bieden gezonde gerechten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is lonend om $\{e://Field/Meal\%20kit\}$ te kopen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Oneens	Enigszins oneens	Neutraal	Enigszins eens	Eens
De \${e://Field/Meal%20kit} zorgen ervoor dat ik nieuwe recepten leer kennen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De \${e://Field/Meal%20kit} bieden waar voor mijn geld.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is verstandig om \${e://Field/Meal%20kit} te kopen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is goed om \${e://Field/Meal%20kit} te kopen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In hoeverre bent u het eens met de volgende stellingen?

Door het gebruik van \${e://Field/Meal%20kit} ...

	Oneens	Enigszins oneens	Neutraal	Enigszins eens	Eens
... hoef ik minder moeite te doen om een maaltijd te bereiden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is koken makkelijker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... hoef ik minder tijd te besteden aan het bedenken wat ik ga eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is het makkelijker om te bedenken wat ik ga eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... besteed ik minder tijd aan het verkrijgen van de benodigde ingrediënten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... is het verkrijgen van de benodigde ingrediënten makkelijker.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... hoef ik minder moeite te doen om te bedenken wat ik ga eten.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... hoef ik minder tijd te besteden aan koken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... hoef ik minder moeite te doen om de benodigde ingrediënten te verkrijgen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In hoeverre bent u het eens met de volgende stellingen?

	Oneens	Enigszins oneens	Neutraal	Enigszins eens	Eens
De meeste mensen die ik waardeer, maken gebruik van \${e://Field/Meal%20kit} of hebben deze gebruikt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind het niet erg om een abonnement af te sluiten om gebruik te kunnen maken van \${e://Field/Meal%20kit}.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik verkies maaltijden die gemakkelijk te plannen, te kopen, voor te bereiden en te koken zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het gebruik van \${e://Field/Meal%20kit} in plaats van het geheel zelfstandig verzorgen van mijn maaltijden, gaat tegen mijn principes in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik vind de abonnementsvorm van \${e://Field/Meal%20kit} flexibel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Oneens	Enigszins oneens	Neutraal	Enigszins eens	Eens
Het gebruik van $\{e://Field/Meal\%20kit\}$ in plaats van het geheel zelfstandig verzorgen van mijn maaltijden, zou moreel verkeerd zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Door $\{e://Field/Meal\%20kit\}$ te gebruiken in plaats van mijn maaltijden geheel zelfstandig te verzorgen, zou ik mij schuldig voelen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
De meeste mensen die belangrijk voor mij zijn, denken dat ik $\{e://Field/Meal\%20kit\}$ zou moeten gebruiken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik verkies maaltijden die snel te plannen, te kopen, voor te bereiden en te koken zijn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hoe minder fysieke inspanning (werk, energie) ik nodig heb om een maaltijd te kopen en te bereiden, hoe beter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Socio-demo

Wat is uw geslacht?

- ☐ Man
- ☐ Vrouw
- ☐ Geen antwoord

Wat is uw leeftijd? (in jaren)

Wat is uw hoogst genoten opleiding?

- ☐ Basisonderwijs
- ☐ Lager / voorbereidend beroepsonderwijs (lbo/vmbo)
- ☐ Middelbaar algemeen voortgezet onderwijs (mavo)
- ☐ Middelbaar beroepsonderwijs (mbo)
- ☐ Hoger algemeen voortgezet onderwijs (havo)
- ☐ Voorbereidend wetenschappelijk onderwijs (vwo)
- ☐ Hoger beroepsonderwijs (hbo)
- ☐ Wetenschappelijk onderwijs (wo)
- ☐ Geen antwoord

Wat is uw huidige werksituatie?

- ☐ Student
- ☐ Fulltime werkend
- ☐ Parttime werkend
- ☐ Gepensioneerd
- ☐ Huismoeder/-vader
- ☐

Anders

Bedankt voor uw deelname aan deze enquête. Eventuele opmerkingen kan u in onderstaand veld kwijt.

Met vriendelijke groet,

Nienke Lindt
Student consumentenpsychologie, Wageningen Universiteit

Appendix 3 Assumption checks

This appendix contains the reporting of the assumption checks on the data. This appendix is structured in the same order as chapter 4.

A3.1 Attribute perceptions on attitude

Offline meal kits

$$APMK = \beta_0 + \beta_1 * TESC_score + \beta_2 * TEOI_score + \beta_3 * TEMP_score + \beta_4 * IV_score + \beta_5 * VFM_score + \beta_6 * HMK_score$$

The assumptions for this regression model have been checked beforehand. The plot of *ZRESID against *ZPRED showed that the model met the assumptions of homoscedasticity and linearity. Moreover, after checking the VIF (< 10) and tolerance values (> 0.2), multicollinearity did not pose a problem. This was confirmed within the correlation matrix (table A1), where none of the predictors were too heavily correlated (< 0.9 as a threshold⁵). A Shapiro-Wilk test (P=0.85) confirmed that the errors were normally distributed. Lastly, when checking for outliers, both the values of standardised residuals and Cook's distance (maximum of 0.12) did not label any cases as heavily influential on the model.

	TESC	TEOI	TEMP	IV	VFM	HMK
TESC	1	0.401*	0.490*	0.224*	0.346*	0.172*
TEOI	.	1	0.700*	0.427*	0.365*	0.326*
TEMP	.	.	1	0.481*	0.320*	0.357*
IV	.	.	.	1	0.322*	0.295*
VFM	1	0.319*
HMK	1

Table A1. Pearson correlation matrix.

* significant at 0.05 level.

Online subscription meal kits

$$APMK = \beta_0 + \beta_1 * TESC_score + \beta_2 * TEOI_score + \beta_3 * TEMP_score + \beta_4 * IV_score + \beta_5 * VFM_score + \beta_6 * HMK_score + \beta_7 * SM_score$$

Again, the assumptions regarding homoscedasticity, linearity and no multicollinearity were met. Covariance between the predictors did not exceed the threshold of 0.9 (table A2). The errors were normally distributed (Shapiro-Wilk, p = 0.427) and no outliers were detected (maximum Cook's distance 0.138).

	TESC	TEOI	TEMP	IV	VFM	HMK	SM
TESC	1	0.206*	0.291*	-0.006	0.283*	0.046	0.325*
TEOI	.	1	0.475*	0.352*	0.221*	0.399*	0.149
TEMP	.	.	1	0.368*	0.178*	0.381*	0.338
IV	.	.	.	1	0.202*	0.468*	0.229*
VFM	1	0.193*	0.426*
HMK	1	0.155
SM	1

Table A2. Pearson correlation matrix

* signifcant at 0.05 level.

⁵ Field, 2009, 3rd edition, p.233 ('If there is no multicollinearity in the data then there should be no substantial correlations ($r > .9$) between predictors.').

A3.2 Convenience orientation

Offline meal kits

$$APMK = \beta_0 + \beta_1 * TESC_censcore + \beta_2 * TEOI_censcore + \beta_3 * TEMP_censcore + \beta_4 * IV_censcore + \beta_5 * VFM_censcore + \beta_6 * HMK_censcore + \beta_7 * CO_TESC + \beta_8 * CO_TEOI + \beta_9 * CO_TEMP + \beta_{10} * CO_censcore$$

No issues have been found when testing the assumptions. Homoscedasticity, linearity and normally distributed errors were present (Shapiro-Wilk, $p = 0.618$). Multicollinearity (table A3) and outliers (maximum Cook's distance 0.294) were also not detected.

	TESC_cen	TEOI_cen	TEMP_cen	IV_cen	VFM_cen	HMK_cen	CO_TESC	CO_TEOI	CO_TEMP	CO_cen
TESC_cen	1	0.401*	0.490*	0.224*	0.346*	0.172*	0.057	-0.047	0.028	0.207*
TEOI_cen	.	1	0.700	0.427*	0.365*	0.326*	-0.028	-0.242*	-0.184*	0.197*
TEMP_cen	.	.	1	0.481*	0.320*	0.357*	0.072	-0.185*	-0.219*	0.201*
IV_cen	.	.	.	1	0.322*	0.295*	-0.036	-0.123	-0.133	0.098
VFM_cen	1	0.319*	0.055	0.090	0.050	0.150
HMK_cen	1	0.066	0.028	-0.033	0.242*
CO_TESC	1	0.384*	0.493*	0.031
CO_TEOI	1	0.729*	-0.008
CO_TEMP	1	-0.189*
CO_cen	1

Table A3. Pearson correlation matrix.

* significant at 0.05 level.

Online subscription meal kits

$$APMK = \beta_0 + \beta_1 * TESC_censcore + \beta_2 * TEOI_censcore + \beta_3 * TEMP_censcore + \beta_4 * IV_censcore + \beta_5 * VFM_censcore + \beta_6 * HMK_censcore + \beta_7 * SM_censcore + \beta_8 * CO_TESC + \beta_9 * CO_TEOI + \beta_{10} * CO_TEMP + \beta_{11} * CO_censcore$$

Again, all assumptions were met (see table A4 for correlations, maximum Cook's distance 0.096).

	TESC_cen	TEOI_cen	TEMP_cen	IV_cen	VFM_cen	HMK_cen	SM_cen	CO_TESC	CO_TEOI	CO_TEMP	CO_cen
TESC_cen	1	0.206*	0.291*	-0.006	0.283*	0.046	0.325*	0.135	-0.062	-0.032	0.164*
TEOI_cen	.	1	0.475*	0.352*	0.221*	0.399*	0.149	-0.106	-0.373*	-0.051	0.299*
TEMP_cen	.	.	1	0.368*	0.178*	0.381*	0.338*	-0.096	-0.086	-0.216*	0.320*
IV_cen	.	.	.	1	0.202*	0.468*	0.229*	0.024	-0.162*	-0.036	0.183*
VFM_cen	1	0.193*	0.426*	0.107	-0.100	0.036	0.110
HMK_cen	1	0.155	0.085	-0.069	0.039	0.161*
SM_cen	1	0.087	-0.123	-0.076	0.219*
CO_TESC	1	0.235*	0.304*	-0.125
CO_TEOI	1	0.494*	0.031
CO_TEMP	1	0.138
CO_cen	1

Table A4. Pearson correlation matrix.

* significant at the 0.05 level.

A3.3 Purchase intention

$$IPMK = \beta_0 + \beta_1 * APMK_score + \beta_2 * SN_score + \beta_3 * MO_score$$

For both offline and online subscription meal kits, the assumptions were all met. In other words, homoscedasticity and linearity were proven and the errors were normally distributed (Shapiro-Wilk, $p = 0.274$ and $p = 0.154$ respectively). There was no sign of multicollinearity (acceptable VIF, tolerance and correlation, see table A5) and outliers that had a heavy influence (maximum Cook's distance 0.062 and 0.037 respectively).

Online subscription				Offline meal kit		
	APMK	SN	MO	APMK	SN	MO
APMK	1	0.367*	-0.149	1	0.421*	-0.339*
SN	.	1	0.158*	.	1	-0.158*
MO	.	.	1	.	.	1

Table A5. Combined Pearson correlation matrix.

* significant at 0.05 level.

A3.4 Actual purchasing behaviour

$$APB = \beta_0 + \beta_1 * IPMK_score$$

When checking the assumptions for this final model, some issues did arise. Since a simple linear regression was used, the assumption regarding collinearity was not relevant and therefore not tested. When checking the plots of *ZRESID against *ZPRED, heteroscedasticity was found instead of homoscedasticity. Moreover, the random errors were not normally distributed for both meal kit types (Shapiro-Wilk, $p = 0.000$ for both). These violations could be caused by the fact that most participants never or rarely used the meal kits during the past month. The frequency table (table A6) showed that for offline meal kits 48.8% and for online subscription meal kits 90.4% of respondents did not use it during the past month. This could have influenced the assumption tests.

	Online subscription			Offline meal kit		
	Frequency	Percent	Cum. Percent	Frequency	Percent	Cum. Percent
0 times	141	90.4	90.4	78	48.8	48.8
1	4	2.6	92.9	24	15	63.8
2	2	1.3	94.2	16	10	73.8
3	2	1.3	95.5	11	6.9	80.6
4	2	1.3	96.8	14	8.8	89.4
5	.	.	.	7	4.4	93.8
6	.	.	.	1	0.6	94.4
7	1	0.6	97.4	3	1.9	96.3
8	3	1.9	99.4	2	1.3	97.5
9	.	.	.	1	0.6	98.1
10	.	.	.	1	0.6	98.8
11	.	.	.	1	0.6	99.4
12	1	0.6	100	.	.	.
13	.	.	.	1	0.6	100

Table A6. Combined frequency table of APB during the past month.

When checking the influence of outliers on the model for offline meal kits, six cases were highlighted when checking the residual values. For online subscription meal kits, five cases were marked. These same cases had a deviating covariance ratio (upper limit of 1.04, lower limit of 0.96 for both). However, since the maximum Cook's distances were respectively 0.087 and 0.324, these cases have not been labelled as heavily influential.