

Meal-kits; a trade-off between literature on healthy food and convenience food?

What is the influence of type of channel, type of meal-kit, and type of promotion on purchase intention of meal-kits, and how are these effects moderated by health consciousness, convenience-orientation, and planned versus impulsive buying?

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Master Thesis Marketing

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Date	13 June 2022

Preface

I proudly present my thesis “Meal-kits; a trade-off between literature on healthy food and convenience food?”. This research was conducted to complete the master’s degree in Marketing at Radboud University. I was very grateful for the opportunity to write my thesis on meal-kits as it is close to my interest and because it is closely related to my bachelor in Food & Business.

During the thesis process, I received great support and help. First of all, I would like to thank my supervisor Marleen Hermans for her feedback, support and guidance during the entire thesis process. I would also like to thank my second examiner Gerrit Antonides for the time he has put into reviewing my thesis. His feedback has also helped me to improve my thesis.

I would also like to thank all the respondents who participated in my research. It was great to see how many people were willing to participate and the positive reactions were also heart-warming.

Finally, I would like to thank my family and friends for their mental support, patience and motivating words during the process. Although it was not always easy, I look back on a very instructive time.

Lisan Verhoeven

Nijmegen, June 2022

Abstract

Recent developments have led to the emergence of new products that respond to the growing demand for healthy and convenient food. One of these healthy convenience food alternatives is meal-kits. In recent years, meal-kits have experienced tremendous growth and it is expected to grow even further. Nevertheless, the subject of meal-kits is still relatively unstudied in academic literature. Literature on healthy food and convenience food is often contradictory, making it unclear which literature stream dominates when it comes to healthy convenience food such as meal-kits. This study contributes to the existing literature by examining whether the type of channel, the type of meal-kit, and the type of promotion influence the purchase intention of meal-kits, and whether and how these relationships are affected by health consciousness, convenience-orientation, and planned versus impulsive buying. An online experiment was conducted among 195 Dutch respondents and analysed using multiple regression analysis in SPSS. The results show that an offline channel is preferred over an online channel, that fresh packages are preferred over meal-kit boxes, and that non-monetary promotions decrease the purchase intention of meal-kits whereas monetary promotions do not affect the purchase intention of meal-kits. Nevertheless, monetary promotions lead to a significantly higher purchase intention for meal-kits than non-monetary promotions. Moreover, the effect of fresh packages on purchase intention of meal-kits is weakened by convenience-orientation. After the robustness check, the relationship between offline and purchase intention of meal-kits was also founded to be weakened by convenience-orientation. Finally, neither health consciousness nor planned versus impulsive buying were found to affect the relationships between type of channel, type of meal-kit, type of promotion, and purchase intention of meal-kits. The findings of this study help marketers and their managers to understand the factors that can increase purchase intention of meal-kits so that they can further improve their meal-kit offerings and marketing strategies.

Keywords: convenience food, healthy food, meal-kits, fresh packages, sales promotions, health consciousness, convenience-orientation, buying behaviour, purchase intention

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1. Introduction

In the last decades, interest in convenience food has grown rapidly (Brunner, Van der Horst, & Siegrist, 2010). This is caused by cultural and economic transformations that resulted in an increased demand for products that make it possible to minimise time and effort (Contini, Boncinelli, Gerini, Scozzafava, & Casini, 2018). Besides this ongoing trend, consumers are more health-conscious than ever before (Interact, n.d.). As a result, new developments have focused on the introduction of healthier convenience food (Jackson & Viehoff, 2016). One of these healthier convenience food alternatives is meal-kits (Nielsen, n.d.).

Last years, meal-kits have experienced tremendous growth (Distrifood, 2018a). The global meal-kit market size in 2020 was estimated at USD 8.24 billion and is expected to grow even further (Verified Market Research, 2021). Meal-kits are boxes for cooking a meal containing a recipe, pre-portioned, and packaged fresh ingredients, enabling cooking at home (Fraser, Love, Campbell, Ball, & Opie, 2021; Heard, Bandekar, Vassar, & Miller, 2019). In doing so, meal-kits offer convenience to consumers.

Brunner et al. (2010, p. 498) define convenience food products as: “... those that help consumers minimize time as well as physical and mental effort required for food preparation, consumption, and cleanup” (Candel, 2001; Darian & Cohen, 1995). Meal-kits differ from convenience food in that they must be cooked from scratch (Hertz & Halkier, 2017). Another contradiction is that convenience food is often considered unhealthy (Jackson & Viehoff, 2016), while meal-kits are healthy (Nielsen, 2018). Yet meal-kits are still marketed as healthy convenience food (Nielsen, 2018).

Within meal-kits, a distinction can be made between meal-kit boxes and fresh packages. A meal-kit box contains all the ingredients needed for three or more meals. Meal-kit boxes are ordered online and usually work based on a subscription that can be easily paused. Consumers choose the desired recipes, after which the box is delivered to their doorstep every week. On the other hand, no subscription is needed for fresh packages that can be bought at grocery stores. A fresh package contains ingredients for only one meal (Maaltijdbox.org, 2019).

Even though much research has been conducted on convenience and healthy food, we lack knowledge about healthy convenience food such as meal-kits (Yoon, Gao, & House, 2022). Literature on convenience food and healthy food is often contradicting each other, for example, concerning purchasing offline or online. Because the literature cannot be fully applied to meal-kits, this study will fill in this gap by examining the following research

question: *“What is the influence of type of channel, type of meal-kit, and type of promotion on purchase intention of meal-kits, and how are these effects moderated by health consciousness, convenience-orientation, and planned versus impulsive buying?”*

This research will contribute to the existing literature in five ways. The first contribution is about the type of channel. In terms of offline versus online purchasing, it is not clear whether the literature on convenience or health prevails. Although different types of convenience foods exist, they all have in common that they help consumers to minimise both time and physical and mental effort (Brunner et al., 2010; Candel, 2001; Darian & Cohen, 1995). Online shopping generally requires less effort than offline shopping (Monsuwé, Dellaert, & De Ruyter, 2004). As a result, online shopping is more in line with the aspects of the definition of convenience food. On the other hand, offline shopping seems to be important for healthy food such as fruits and vegetables because of the touch-and-feel experience (Zheng, Chen, Zhang, & Wang, 2020). This experience is missing when buying online. Other research has shown that consumers are afraid to select and handle perishables online (Galante, López, & Monroe, 2013; Hanus, 2016; Toomey & Wysocki, 2009). Given that meal-kits are both healthy and convenient, it is not clear which stream of literature will dominate when buying healthy convenience foods such as meal-kits.

The second contribution is that a distinction is made between meal-kit boxes and fresh packages. Most academic research does not distinguish between the two types of meal-kits and focuses mainly on meal-kit delivery services. However, fresh packages differ from meal-kit boxes in several ways. For example, fresh packages do not require a subscription (Maaltijdbox.org, 2019). Moreover, fresh packages consist of ingredients for one meal, rather than several meals, which is the case with meal-kit boxes (Maaltijdbox.org, 2019). In addition, meal-kit boxes contain all the ingredients needed to prepare a meal, whereas fresh packages do not contain ingredients such as meat and fish, and other chilled fresh products (Maaltijdbox.nu, 2019). These products have to be purchased additionally. The two types of meal-kits thus differ in terms of product attributes and can therefore be considered different. Moreover, the literature on healthy food and convenience food is contradictory. The convenience literature describes that convenience food is often bought in advance and many people buy them for storage (Swoboda & Morschett, 2001; Yale & Venkatesh, 1986). This literature stream seems to apply more to meal-kit boxes because of the number of meals included, which means they need to be stored. In contrast, the healthy food literature states that many healthy foods are perishable and that consumers do not buy them far in advance because of the expiry date (Sezen, 2004). Therefore, the literature on healthy food seems to be

more applicable to fresh packages. Due to the differences in the convenience and healthy food literature, it is unclear which literature stream dominates concerning purchasing meal-kits. This study makes a theoretical contribution by distinguishing between the two types of meal-kits. However, the effect of meal-kit boxes versus fresh packages is particularly interesting when it comes to the moderators of this study; health consciousness, convenience-orientation, and planned versus impulsive buying. This research can therefore provide insight into which type of meal-kit is preferred by which type of consumer.

The third contribution is about the effect of sales promotions on purchase intention, which has not yet been studied for meal-kits. It is known that sales promotions can stimulate purchases (Grewal, Krishnan, Baker, & Borin, 1998a). It is known that discounts on fruits and vegetables lead to substantially higher purchases (Ball, McNaughton, Le, Gold, Ni Mhurchu, Abbott, Pollard, & Crawford, 2015; Waterlander, Steenhuis, De Boer, Schuit, & Seidell, 2012; Waterlander, Steenhuis, De Vet, Schuit, & Seidell, 2010). However, Mishra and Mishra (2011) found out that for healthy food non-monetary promotions are preferred whereas monetary promotions are preferred for unhealthy (convenience) food. Since meal-kits can be considered both healthy and convenient, it is unclear which stream of literature prevails. Therefore, this research will contribute to the existing literature by providing new insights into the attractiveness of sales promotions around healthy convenience food such as meal-kits.

The fourth contribution is about the moderating effects of health consciousness and convenience-orientation. It is already known that both health and convenience are important drivers when it comes to food purchase intention in general, and also to meal-kits (Costa, Schoolmeester, Dekker, & Jongen, 2007; Hertz & Halkier, 2017; Olsen, Menichelli, Sørheim, & Næs, 2012). Some studies have suggested that consumers' food choice is dependent on a trade-off between health and convenience (Costa et al., 2007; Hertz & Halkier, 2017; Olsen et al., 2012). However, this is expected to be different concerning healthy convenience food such as meal-kits. This research assumes that consumers do not necessarily make a trade-off between convenience and health, but that both can coexist. It is expected that consumers can be both health-conscious and convenience-oriented. In this study, health consciousness and convenience-orientation are included as moderating variables, as they are expected to influence the effects of channel type, type of meal-kit, and type of promotions on the purchase intention of meal-kits. As outlined in the previous contributions, the literature on health and convenience contradicts concerning offline versus online, meal-kit boxes versus fresh packages, and sales promotion. Therefore, this research will identify the preferences of health-conscious consumers and convenience-oriented consumers.

The final contribution of this study is about the moderating effect of planned versus impulsive buying, two types of behaviour that characterise consumers' buying behaviour (Cleria, 2019). Planned versus impulsive buying behaviour is expected to influence the relationships between channel type, type of meal-kit, type of promotion, and purchase intention. Impulsive buying is related to ease of buying (Stern, 1962), and therefore convenience products are often seen as impulse products (Duarte, Raposo, & Ferraz, 2013). Impulse purchases are most often made in offline channels (Brown, Farmer, & Ganenthiran, 2013), while planned purchases are made in both channels. Planned buyers plan further ahead (Lee & Kacen, 2008), which may explain the preferred type of meal-kit. Moreover, the attractiveness of sales promotions is expected to differ for planned and impulsive buyers. Impulsive buyers are generally more sensitive to sales or product discounts (Badgaiyan & Verma, 2015; Laroche, Pons, Zgolli, Cervellon, & Kim, 2003; Liao, Shen, & Chu, 2009; Tinne, 2011; Virvalaite, Saladiene, & Bagdonaite, 2009), while planned buyers may also be motivated by promotions, but to a lesser extent (Bellini, Cardinali, & Grandi, 2016). In summary, this study contributes to the existing theory by examining whether the literature on healthy food or convenience food prevails.

Besides these theoretical contributions, this study also provides valuable insights for marketers and managers. First, the results of this study will show the preferences in the type of channel, type of meal-kit, and type of promotion. This will provide insights for developing and expanding meal-kit offerings. Furthermore, marketers and marketing managers will gain insight into the effectiveness of sales promotions for meal-kits. This will enable them to use the right promotion to increase the sales of meal-kits. Moreover, results will show to what extent and how health consciousness, convenience-orientation, and planned versus impulsive buying affect the factors that can increase the purchase intention of meal-kits. This will provide insight into which type of channel, type of meal-kit and type of promotion is most feasible for which type of consumer. So, managers will gain insight into the preferences of health-conscious and convenience-oriented consumers, as well as those of planned versus impulsive buyers, which can help better position each type of meal-kit.

This research continues in Chapter 2 with a literature review on the concepts of convenience food, healthy food, meal-kits, and sales promotions. Chapter 3 presents the conceptual framework of this study, as well as the hypotheses. Next, Chapter 4 describes the methodology of this study, discussing the research design, sample design, operationalisation, methodology, and research ethics. Chapter 5 presents the results of this study. Finally, Chapter 6 consists of the conclusion and discussion.

2. Literature review

2.1 Convenience food

Since the 1970s, the convenience food sector has grown rapidly as an effect of increasing demand for convenience food products (Brunner et al., 2010; Jackson & Viehof, 2016; Sheely, 2008). This is the result of changing lifestyles, and cultural and economic transformations (Buckley, Cowan, McCarthy, 2007; Contini et al., 2018). For example, people devote more hours to work and also desire maximized leisure time (Lee & Lin, 2013; Siekierski, Ponchio, & Strehlau, 2013). Family structures are also changing, and there are more one-person households than before (Buckley et al., 2007). There are also more women pursuing paid work (Buckley et al., 2007), whereas until recently, food preparation was mainly the work of women (Bowers, 2000). These transformations have led to an increased interest in products that make it possible to minimise time and effort, called: convenience food (Farquhar & Rowley, 2009; Yale & Venkatesh, 1986). This is also reflected in the fact that the time people spend on meal preparation has decreased (Jabs & Devine, 2006).

Convenience is a broad and multidimensional construct (Ana, Schoolmeester, Dekker, & Jongen, 2007). Brunner et al. (2010, p. 498) define convenience food products as: "... those that help consumers minimize time as well as physical and mental effort required for food preparation, consumption, and cleanup" (Candel, 2001; Darian & Cohen, 1995). This definition looks at the time- and effort-saving capabilities of convenience food from a process perspective (Hertz & Halkier, 2017). In the food consumption process, the following five stages are distinguished: meal planning, food shopping, meal preparation, meal consumption, and cleaning up (Botonaki, Natos, & Mattas, 2008). These stages influence consumers' perceived convenience (Jaeger & Meiselman, 2004). The food industry has developed a range of time-saving products to meet this increasing demand for convenience products (Olsen, 2012). Convenience food can be classified into four different categories; (1) ready-to-eat, (2) ready-to-heat, (3) ready-to-end-cook, and (4) ready-to-cook (Costa, Dekker, Beumer, Rombouts, & Jongen, 2001). Brunner et al. (2010) distinguish between the following four categories; (1) highly processed food items, (2) moderately processed food items, (3) single components, and (4) salads.

In recent years, the term 'convenience food' has grown and diversified as increasing volumes of new products have been provided (Hertz & Halkier, 2017). However, some convenience foods seem to push the boundaries between convenience food and other food categories, such as homemade food (Hertz & Halkier, 2017). In addition, some people have a

negative attitude toward convenience food, as it is often associated with food categories such as fast food, which are considered unhealthy (Brunner et al., 2010; Gofton, 1995; Hertz & Halkier, 2017). The diversification, lack of quality, and moral ambiguity of convenience food have recently resulted in a reframing of convenience food by Jackson & Viehoff (2016).

After this reframing of convenience, Hertz and Halkier (2017) argue that meal-kits are ‘convenient’ in terms of time saved on meal planning and shopping and because they avoid negative associations with other kinds of convenience foods. Meal-kits can be considered ready-to-cook (Cho, Bonn, Moon, & Chang, 2020). Ready-to-cook meals are meals that have been minimally prepared for cooking, but still require full cooking of some or all of its components (Costa et al., 2001).

A convenience-oriented consumer is defined as one who seeks to “accomplish a task in the shortest time with the least expenditure of human energy” (Morganosky, 1986, p. 37). In the context of convenience food, it refers to the extent to which someone is interested in food that delivers some kind of convenience. This study will include convenience-orientation as a variable.

Many studies indicate that the interest in convenience foods continues to grow. However, Maehle, Iversen, Hem and Otnes (2015) argue that many people are shifting from convenience consumption to environmentally friendly and more healthy food products.

2.2 Healthy food

Changing consumer lifestyles have had a huge impact on the demand for foods that are considered as healthy and nutritious (Gray, Armstrong, & Farley, 2003). The growing belief that foods directly contribute to health is causing consumers to think more about health issues and be willing to make healthier choices regarding their eating habits (Chen, 2013). Consumers are increasingly using food to improve their health and overall well-being (Gray et al., 2003). Therefore, the healthy food market is expected to continue growing in the future (Technavio, 2020).

In response to growing consumer interest in healthy food, retailers and manufacturers have been developing dietary, low-carb, low-calorie, low-sodium, low-fat, low-cholesterol, caffeine-free, no trans-fat, vitamin-enriched, calcium-added, high-fibre, natural, and organic products (Prasad, Strijnev, & Zhang, 2008). However, healthy food is a broad concept that is often thought of in different ways. “Foods are composed of combinations of many nutrients and ingredients...” (Lobstein & Davies, 2009, p. 338). Some of these we should eat more

(such as fruits and vegetables), others less. To determine whether a food is healthy, experts take into account various criteria such as energy density, type of fat, and sodium content (Bucher, Müller, & Siegrist, 2015).

In the Netherlands, the guidelines of ‘het Voedingscentrum’, an information centre subsidised by the Dutch government, can be used to determine which foods are considered healthy (Voedingscentrum, n.d.-b). ‘Het Voedingscentrum’ has created the ‘Schijf van Vijf’ which consists of five sections that help to make healthier food choices. Eating according to the ‘Schijf van Vijf’ means eating products that are good for your health and getting all the nutrients you need. As for healthier choices, the following are recommended: eat a lot of vegetables and fruit, eat mainly whole grain products, eat less meat and more plant-based, eat enough dairy products and a handful of unsalted nuts, and use soft and liquid fats for spreading and preparing food. In general, it is also recommended to eat small portions and not to eat too much salt, sugar, and saturated fat (Voedingscentrum, n.d.-a; Voedingscentrum, n.d.-c).

The Dutch National Food Consumption Survey 2012-2016 shows how much and what people in the Netherlands eat and drink and how their consumption patterns have changed over time. In recent years, the Dutch have started to eat somewhat healthier. People eat more fruit and seem to eat more vegetables. They also eat less meat and drink less sugary drinks. However, many Dutch people still do not follow the guidelines (Van Rossum, Buurma-Rethans, Dinnissen, Beukers, Brants, Dekkers, & Ocké, 2020).

As healthy eating contributes to preventing obesity and chronic diseases (Van Rossum et al., 2020), governments as well as food producers and retailers have started to promote healthy food consumption in different ways. For example, home cooking is widely promoted as an important public health strategy to improve eating habits and the quality of nutrition (Mills, White, Brown, Wrieden, Kwasnicka, Halligan, Robalino, & Adams, 2017; Wolfson, Ishikawa, Hosokawa, Janisch, Massa, & Eisenberg, 2021; Wolfson, Leung, & Richardson, 2020). Previous research suggests that home cooking is frequently associated with lower energy intake (Wolfson & Bleich, 2015b), lower consumption of sugar and fat (Taillie & Poti, 2017; Wolfson & Bleich, 2015b), higher consumption of fruits and vegetables (Wolfson & Bleich, 2015a), and higher overall diet quality (Tiwari, Aggarwal, Tang & Drewnowski, 2017).

In addition, nudges are often used to encourage healthy eating behaviour. A nudge can be defined as “... any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic

incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting the fruit at eye level counts as a nudge. Banning junk food does not” (Thaler & Sunstein, 2008, p. 6). Examples of types of healthy eating nudges include descriptive nutritional labelling, evaluative nutritional labelling, visibility enhancements, healthy eating calls, hedonic enhancements, convenience enhancements, and size enhancements (Cadario & Chandon, 2019). Healthy food consumption can also be stimulated by the use of pricing strategies (Waterlander et al., 2010; Waterlander et al., 2012).

Since consumers are more concerned about their health than ever before (Interact, n.d.), health-consciousness will be included as a variable in this study. There are several definitions of health consciousness, all of which indicate that an individual is concerned about his/her health and is motivated to improve or maintain their well-being by engaging in healthy behaviours (Mai & Hoffman, 2012). Thus, a health-conscious consumer has a consistent preference for healthy versions of foods in different categories (Prasad et al., 2008). Research conducted in the United States showed that 74% of the consumers claimed to have changed their eating habits because of health and nutrition concerns (Prasad et al., 2008; United Soybean Board, 2005).

2.3 Meal-kits

The food industry has been innovative in developing new products and services to meet the growing demand for healthy and convenient food. One such innovation is meal-kits, which are a growing segment in the market (Yoon et al., 2022). Meal-kits must be cooked from scratch (Hertz & Halkier, 2017). Using the included step-by-step instructions allows consumers to prepare home-cooked meals healthily and conveniently (Horning, Hill, Martin, Hassan, Petrovskis, & Bohen, 2021).

There are two types of meal-kits, namely: meal-kit boxes and fresh packages. Meal-kit boxes consist of ingredients for three or more meals and can be ordered via subscription services for weekly home deliveries. Meal-kit boxes can be customised by consumers according to their needs. They can indicate how many portions and how many meals they would like to receive per week and what their dietary/lifestyle preferences are (e.g. vegetarian/non-vegetarian or recipes designed for families with young children). Based on this data, the consumer selects the meals to be received. The meal-kit box is then delivered weekly, according to the user's preference. The weekly deliveries can easily be paused, for example, during holidays (Moores, Bell, Buckingham, & Dickinson, 2021). These meal-kit

subscription services have become increasingly popular (Fraser et al., 2021). Convenience, based on the time saved, is one of the drivers behind the decision to subscribe to an online offering. Subscription-based e-commerce is a fast-growing new way of buying online. Streaming media subscriptions have been popular for a while, but now subscription is also being used for consumer goods (Chen, Fenyo, Yang, & Zhang, 2018). However, subscription services also suffer from high cancellation rates (Andonova, Anaza, & Bennett, 2021; Chen et al., 2018). In the meal-kit industry, cancellation rates within the first six months are 60-70% and higher (Chen et al., 2018).

Fresh packages, which can be bought at grocery stores, only consist of ingredients for one meal. Hence, consumers do not have to subscribe to a delivery service. However, fresh packages offer less choice than meal-kit boxes, which contain new recipes every week (Maaltijdbox.org, 2019).

One of the most frequently mentioned disadvantages of meal-kits in general, but especially of meal-kit boxes is that they are perceived as expensive (Fraser et al., 2021; Khan & Sowards, 2018; Maaltijdbox.org, 2019).

2.4 Sales promotions

Price is an important element used in marketing activities (Low, Lee, & Cheng, 2013), and it also influences consumers' decisions (Graciola, De Toni, De Lima, & Milan, 2018). Consumers generally prefer attractive prices (Bambauer-Sachse & Mangold, 2009). For this reason, sales promotions are widely used. The importance of sales promotions has increased significantly over years (Manalel, MC, & Zacharias, 2007). "In many European countries, sales promotion expenditures are larger than advertising expenditures" (d'Astous & Jacob, 2002, p. 1270; Leeflang & Van Raaij, 1995).

Customers are sensitive to the price of the product when they decide where to buy a product (Graciola et al., 2018). "Price sensitivity refers to the change of consumer demand resulting from the rise or fall of price, akin to 'price elasticity' in economics" (Low et al., 2013, p. 1). According to Shankar and Krishnamurthi (1996), price-sensitive consumers are generally more sensitive to sales promotions. Sales promotions are a temporary and tangible change in the offer and lead to changes in behaviour (Chandon, 1995).

Sales promotions are the most widely used marketing tool to attract new customers (Kim, 2019; Schweidel, Fader, & Bradlow, 2008). Sales promotions make products more attractive and purchasable for the customer (Bambauer-Sachse & Mangold, 2009). Sales

promotions are also used by retailers to increase store traffic and stimulate purchases (Grewal et al., 1998a; Grewal, Monroe, & Krishnan, 1998b).

Previous research has distinguished between monetary and non-monetary promotions. Monetary promotions include price reductions, coupons and rebates, while non-monetary promotions include gifts and premiums, buy one get one free, contests, sweepstakes, and bonus packs (Chandon, Wansink, & Laurent, 2000; Yi & Yoo, 2011). Thereby, monetary promotions directly influence the cost-benefit relation of a product (Büttner, Florack, & Göritz, 2015). Price discounts are the most commonly used form of sales promotion used by firms (Palazon & Delgado-Ballester, 2009), and belong to the monetary promotions. Premiums are the most commonly used non-monetary promotion (Nunes & Park, 2003). Premiums can be defined as: "... a product or a service offered free or at a relatively low price in return for the purchase of one or many products or services" (d'Astous & Jacob, 2002, p. 1270). Since price discounts (monetary) and premiums (non-monetary) are the most commonly used forms of promotion, these will be used in this study.

Monetary and non-monetary promotions differ in the type of psychological benefits they provide to consumers. While monetary promotions offer mainly utilitarian benefits, such as monetary savings, non-monetary promotions offer mainly hedonic benefits, such as entertainment (Büttner et al., 2015; Chandon et al., 2000).

Research by Büttner et al. (2015) found that promotions are more effective if they support a consumer in pursuing his or her goals during shopping. They identified two different types of shoppers, namely: task-focused shoppers and experiential shoppers. Task-focused shoppers adopt a utilitarian focus while experiential shoppers adopt a hedonic focus. "Task-focused shoppers evaluated monetary promotions as more attractive than nonmonetary promotions. Experiential shoppers, in contrast, evaluated monetary and nonmonetary promotions as comparably attractive" (Büttner et al., 2015, p. 184). Therefore, it is better to use monetary promotions for utilitarian products. Non-monetary promotions can be used for both utilitarian and hedonic products.

Whether one should use monetary or non-monetary promotions is also dependent on some other aspects. Price discounts have a higher value in a risky situation (Lowe, 2010). However, non-monetary promotions are preferred when the risk is low. Consumers attracted to non-monetary promotions seek benefits of value expression, exploration, and entertainment (Sinha & Verma, 2017).

Although sales promotions are very attractive and successful, they can also have a significant drawback. For example, price discounts result in a lower price. As consumers

perceive the price as an indicator of product quality, price discounts are likely to have a negative impact on quality perception. Consumers believe that market prices are determined by the forces of competitive supply and demand, and see price and quality as positively related (Grewal et al., 1998a). Moreover, price discounts are quite costly (Hardesty & Bearden, 2003).

3. Conceptual framework

This research focuses on the influence of meal-kit characteristics and sales promotions on the purchase intention of meal-kits. These effects are moderated by health consciousness, convenience-orientation, and planned versus impulsive buying. Therefore, this research will provide insight into whether the type of channel, the type of meal-kit, and the type of promotion influence the purchase intention of meal-kits, and whether and how these relationships are affected by health consciousness, convenience-orientation, and planned versus impulsive buying. The conceptual model is shown in Figure 1.

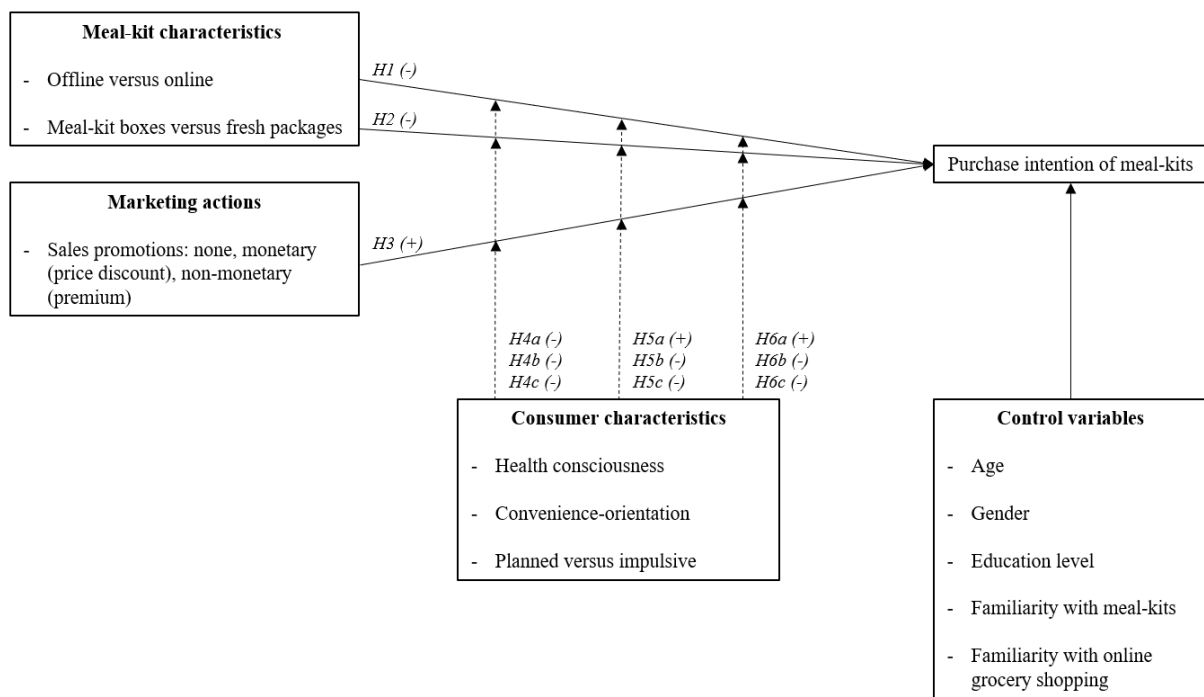


Figure 1: Conceptual model

3.1 Offline versus online

One of the reasons consumers buy meal-kits is because of their convenience (Moore et al., 2021). Convenience can be provided not only in meal planning, meal preparation, meal consumption, and cleaning up but also in the earlier stage of food shopping (Bottonaki et al., 2008; Jaeger & Meiselman, 2004).

Online grocery shopping can reduce the effort spent on meal shopping as online shopping generally requires less effort than physical shopping (Monsuwa et al., 2004). Convenience is the main motivator for many people to do their grocery shopping online (Morganosky & Cude, 2000), and consumers prefer online services because of their

convenience (Yeo, Goh, & Rezaei, 2017). “Shopping convenience has been one of the principal motivations underlying customer inclinations to adopt online purchasing” (Jiang, Yang, & Jun, 2013). Online shopping can be done at any time (Pitts, Ng, Blitstein, Gustafson, & Niculescu, 2018; Ramus & Nielsen, 2005; Yeo et al., 2017), whereas with offline grocery shopping, consumers are bound by opening hours. Also, the consumer does not have to leave his or her home (Ramus & Nielsen, 2005; Yeo et al., 2017). In addition, online grocery shopping is perceived as more organised, partly because a basic list can be set up (Ramus & Nielsen, 2005). However, it is also questionable whether online grocery shopping indeed leads to effort reduction. As soon as consumers do their grocery shopping online, they have to wait several days for their order to be delivered (Ramus & Nielsen, 2005). In that case, consumers are forced to stay at home. This time lag between ordering and delivery is perceived by consumers as annoying (Ramus & Nielsen, 2005). In this case, offline shopping reduces the effort because the consumer does not have to wait for the online order to be delivered.

When buying fresh food, the touch-and-feel experience is important for consumers (Zheng et al., 2020). This experience is missing when buying online. Nonetheless, meal-kits are always pre-packaged, which means that consumers can choose one pack over another, but have to make do with their sight rather than touch-and-feel experiences. Moreover, several authors argue that consumers fear selecting and handling perishables online (Galante et al., 2013; Hanus, 2016; Toomey & Wysocki, 2009). Nevertheless, consumers have increasingly started to buy healthy food online (Hsu & Chen, 2011).

Although both offline and online shopping have their advantages and disadvantages, this study expects that the touch-and-feel experience is not that important in the context of meal-kits and that consumers experience the most effort reduction from shopping online. Therefore, consumers are expected to prefer buying meal-kits online to buying them offline. This also seems to be supported by Nielsen; even though offline sales of meal-kits are growing, in 2018 the majority of meal-kit sales still took place online (Nielsen, 2019).

H1: Purchase intention of meal-kits is lower for offline bought meal-kits than for online bought meal-kits.

3.2 Meal-kit boxes versus fresh packages

Meal-kit boxes and fresh packages differ from each other in several respects. First, meal-kit boxes require consumers to subscribe to a meal-kit box deliverer (Cho et al., 2020). However, subscription is seen as one of the reasons for not buying meal-kit boxes (Drost, Van der Wal, & Baas, 2015). Consumers are reluctant to use subscription models for tangible products because they are not seen as attractive (ING Economics Department, 2018). Fresh packages do not require a subscription as they are available at regular grocery stores.

In addition, meal-kit boxes also differ from fresh packages in that they consist of three or more meals, rather than one. From this point of view, meal-kit boxes offer greater convenience, as less time needs to be spent planning meals and purchasing. However, people do not want to decide in advance what they will eat the following week. Most people decide what they want to eat during the day or the day before (Ducrot, Méjean, Aroumougame, Ibanez, Allès, Kesse-Guyot, Hercberg, & Péneau, 2017), which would argue a preference for fresh packages. Moreover, it is known that packing shape and size have an effect on purchase decision, and that people prefer products which they can use and carry easily (Hussain, Ali, Ibrahim, Noreen, Ahmad, 2015). Given these differences between meal-kit boxes and fresh packages, it can be argued that both differ in product attributes, which may lead to consumers experiencing the product attributes differently and therefore perceiving the types of meal-kits as different.

Moreover, it is known that convenience food is often bought in advance and that many people buy convenience foods for storage (Swoboda & Morschett, 2001; Yale & Venkatesh, 1986). However, healthy foods are perishable and therefore consumers do not buy them far in advance because of the expiry date (Sezen, 2004).

Although meal-kit boxes offer more convenience by providing three or more meals, consumers are expected to prefer fresh packages to meal-kit boxes because of their accessibility, the fact that they are not tied to a subscription, and the number of meals. Fresh packages offer therefore more flexibility. This is in line with the fact that the popularity of meal-kit boxes is declining at the expense of the rise of fresh packages. Fresh packages are gaining in popularity, while meal-kit boxes are losing ground (Distrifood, 2018b).

H2: Purchase intention of meal-kits is lower for meal-kit boxes than for fresh packages.

3.3 Sales promotions

Sales promotions are used to encourage purchases (Grewal et al., 1998a; Grewal et al., 1998b). Consumers are stimulated to buy a product more quickly, more frequently, and/or in larger quantities than in the absence of promotion (Hawkes, 2009).

Since a high price is the biggest barrier to buying healthy food (Bokkerink, Ducasse, Tawfik, Jain, Vedernikova, Hargreaves, Ellis, & Lamare, 2020; Jetter, & Cassady, 2006), sales promotions can be effective. For healthy food products such as fruits and vegetables, it is known that a discount of 25% leads to substantially higher purchases of fruit and vegetables (Waterlander et al., 2010; Waterlander et al., 2012). Another study also provides evidence for the effect of price discounts on fruit and vegetable purchases. A 20% discount resulted in 35% more purchases for fruit and 15% for vegetables during the price reduction period (Ball et al., 2015). Additionally, also non-monetary promotions are found to be effective for healthy food (Mishra & Mishra, 2011).

Moreover, price promotions were found to increase the purchase intention not only for low-calorie foods (such as fruit and vegetables), but also for high-calorie foods (Phipps, Kumanyika, Stites, Singletary, Cooblall, & DiSantis, 2014; Riesenberger, Backholer, Zorbas, Sacks, Paix, Marshall, Blake, Bennet, Peeters, & Cameron, 2019). Because convenience food is often considered unhealthy and high in calories (Jackson & Viehoff, 2016), it is expected that promotions will also work for convenience food.

Since consumers perceive meal-kits as expensive (Fraser et al., 2021; Khan & Sowards, 2018), the price of meal-kits can also be a barrier to buying healthy convenience food. As sales promotions can temporarily lower the price (monetary promotion) or offer more value through free products (non-monetary promotion), both monetary and non-monetary promotions are expected to positively influence the purchase intention of meal-kits.

H3a: Both monetary and non-monetary promotions have a positive effect on purchase intention of meal-kits.

Generally, people prefer a bonus pack (non-monetary promotion) to a price discount (monetary promotion) because they get something free for the same price (Chandran & Morwitz, 2006; Mishra & Mishra, 2011). Mishra and Mishra (2011) examined the influence of price discounts versus bonus packs on the preference for healthy (virtue) and unhealthy (vice) foods. They found that for healthy foods, consumers prefer bonus packs over price discounts. However, monetary promotions were also found to be effective in increasing

purchase intention of healthy food. A discount on healthy food, such as fruits and vegetables, leads to substantially higher purchases of fruit and vegetables (Ball et al., 2015; Waterlander et al., 2010; Waterlander et al., 2012).

For unhealthy (convenience) foods, price discounts are preferred (Mishra & Mishra, 2011). It is suspected that the preference for price discounts is related to justification. In the case of unhealthy foods, price discounts provide better justification because consumers believe they are saving money and not overconsuming unhealthy food (Mishra & Mishra, 2011; Wertenbroch, 1998).

Kwok and Uncles (2005) suggest that monetary promotions are preferable anyway. Thus, regardless of the fact non-monetary promotions are generally preferred, there seems to be enough evidence to assume that monetary promotions work better than non-monetary promotions in the case of meal-kits.

H3b: Monetary promotions have a more positive effect on the purchase intention of meal-kits than non-monetary promotions.

3.4 Health consciousness

Health-conscious consumers buy fresh food products because these products are perceived as healthy and help them to engage in healthy behaviours (Mai & Hoffman, 2015; Prasad et al., 2008). When buying healthy food, such as fruits and vegetables, the touch-and-feel experience is important (Zheng et al., 2020). This experience is missing online. Although meal-kits are always pre-packaged, it is expected that health-conscious consumers prefer to buy offline rather than online because the quality and perishability of the fresh products can then be better assessed. In the offline channel, consumers may still choose one meal-kit over another. In addition, several authors argue that consumers fear selecting and handling perishables online (Galante et al., 2013; Hanus, 2016; Toomey & Wysocki, 2009). Thus, although consumers have increasingly started to buy healthy food online (Hsu & Chen, 2011), it is expected that health-conscious consumers prefer to buy meal-kits online rather than offline.

H4a: The negative effect of offline on purchase intention of meal-kits is weakened by health consciousness.

Health-conscious consumers are concerned about their health and are motivated to improve or maintain their well-being by engaging in healthy behaviours (Mai & Hoffman, 2015). Health-conscious consumers look for healthier alternatives and diets (Prasad et al., 2008). Planning is very important in achieving healthy eating behaviour (Michie, Abraham, Whittington, McAteer, & Gutpa, 2009; Wood & Shukla, 2016). Meal planning means planning the foods that will be eaten in the coming days. Planning meals ahead is associated with higher fruit and vegetable intake (Ducrot et al., 2017). This can be attributed to meal-kit boxes versus fresh packages. Since meal-kit boxes consist of three or more meals (Maaltijdbox.org, 2019), planning further ahead is more common than with fresh packages.

Looking at the current offer of some of the major meal-kit suppliers in the Netherlands, the following can be concluded. Fresh packages of suppliers like Albert Heijn and Jumbo do not focus on certain dietary or organic needs, but can for instance be prepared vegetarian (Albert Heijn, n.d.-b; Jumbo, n.d.). Suppliers such as HelloFresh and Marley Spoon, on the other hand, offer consumers the opportunity to consciously adopt a healthy lifestyle (HelloFresh, n.d.-b; Marley Spoon, n.d.). At HelloFresh, consumers can choose from different healthier meal-kit boxes, for example boxes that are low in calories. Marley Spoon offers recipes that are categorized as 'healthy choice' or 'low-carb'. Moreover, health-conscious consumers show a growing preference for organic food (Rana & Paul, 2017). Although the above-mentioned providers do not offer meal-kits consisting of organic food, there are some smaller providers such as Ekomenu that do offer the option of an organic meal-kit box (Ekomenu, n.d.).

As meal-kit boxes cater more to the changing dietary needs of health-conscious consumers, it is expected that these consumers will prefer a meal-kit box to fresh packages.

H4b: The negative effect of meal-kit boxes on purchase intention of meal-kits is weakened by health consciousness.

Discounts on healthy food, such as fruits and vegetables, lead to substantially higher purchases of fruit and vegetables (Ball et al., 2015; Waterlander et al., 2010; Waterlander et al., 2012). Additionally, Mishra and Mishra (2011) examined the preferred type of promotion for healthy (virtue) and unhealthy (vice) and found that non-monetary promotions are preferred for healthy food.

However, Prasad et al. (2008) found that health-conscious households are less price sensitive. According to Shankar and Krishnamurthi (1996), price-sensitive consumers are

generally more sensitive to sales promotions. This implies that less price-sensitive consumers are willing to pay a higher price. Therefore, health-conscious consumers are expected to be less attracted by promotions.

H4c: The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weakened by health consciousness.

3.5 Convenience-orientation

Convenience-oriented people try to accomplish tasks in the shortest possible time with the least amount of human energy (Morganosky, 1986). They want to reduce effort in all five stages of the food consumption process. This means that consumers want to save time and effort not only in meal planning, meal preparation, meal consumption, and cleaning up but also in the earlier stage of food shopping (Botonaki et al., 2008; Jaeger & Meiselman, 2004). Buying meal-kits online leads to more effort reduction than buying meal-kits physically because the amount of time spent on online shopping, in general, is less than on physical shopping (Monsuwé et al., 2004). Online shopping can be done at any time (Pitts et al., 2018; Ramus & Nielsen, 2005; Yeo et al., 2017), whereas with offline grocery shopping, the consumer is bound by opening hours. Also, the consumer does not have to leave his or her home (Ramus & Nielsen, 2005; Yeo et al., 2017). In addition, online grocery shopping is perceived as more organised (Ramus & Nielsen, 2005). Although consumers have to wait several days for their order to be delivered (Ramus & Nielsen, 2005), it can be assumed that the effort reduction is higher with online shopping than with offline shopping.

H5a: The negative effect of offline on purchase intention of meal-kits is strengthened by convenience-orientation.

Convenience-oriented consumers try to save time and effort (Morganosky, 1986). Meal-kits are perceived as a convenient way to plan and prepare a nutritious home-cooked meal without the added time, stress, and pressure involved in meal planning and grocery shopping (Fraser et al., 2021). Meal-kit boxes consist of ingredients to prepare three or more meals, while fresh packages consist of ingredients for only one meal (Maaltijdbox.org, 2019). Moreover, convenience-oriented consumers are generally more attracted to larger packaging sizes (Silayoi & Speece, 2007). By buying meal-kit boxes, consumers save more time and

energy, as one package consists of three or more meals and can be bought in one operation. Therefore, buying meal-kits not only saves time in meal planning (deciding what to eat) but also in grocery shopping (one box versus three fresh packages).

H5b: The negative effect of meal-kit boxes on purchase intention of meal-kits is weakened by convenience-orientation.

Other research has focused on how consumers respond to monetary and non-monetary promotions, based on their shopping orientation; task-focused or experiential-focused (Büttner et al., 2015). When a consumer has a task-focused shopping orientation, a utilitarian focus is adopted and shopping is seen as a task to be completed as efficiently as possible. The definition of task-focused shopping overlaps with the concept of convenience, which is one of the main drivers for purchasing meal-kits (Drost et al., 2015). From this point of view, it can be assumed that convenience-oriented consumers have a more task-focused shopping orientation. Task-focused consumers are more attracted to monetary promotions than to non-monetary promotions (Büttner et al., 2015; Sinha & Verma, 2020). Nevertheless, convenience-oriented shoppers are less price-sensitive than non-convenience-oriented shoppers, indicating that they are willing to pay extra for the convenience they seek (Brunner et al., 2010; Swoboda & Morschett, 2001). Price promotions will therefore work better when consumers are not convenience-oriented.

H5c: The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weakened by convenience-orientation.

3.6 Planned versus impulsive

A planned purchase is thought about before entering the store (Lee & Kacen, 2008). It is known that planning plays an important role in healthy eating behaviour (Michie et al., 2009; Wood & Shukla, 2016). Impulsive buying, on the other hand, is defined as a purchase decision made in the store without explicit recognition of a need (Kollat & Willett, 1967), and is generally considered synonymous with unplanned buying (Stern, 1962). Impulsive buying is related to ease of buying (Stern, 1962), and therefore impulse products are often seen as convenience products (Duarte et al., 2013). These findings imply that meal-kit boxes are more likely to be bought planned and that fresh packages are more bought based on impulse.

Impulse purchases are more often made in offline channels than in online channels. Around 62% of the supermarket sales and in some product categories even 80% of purchases are caused by impulsive buying (Duarte et al., 2013). In stores, consumers generally spend more money than planned, while fewer consumers do so when shopping online. An important reason for this is the fact that online shopping more often involves mission trips (Brown et al., 2013). Although many authors agree with the fact that most impulsive purchases are made offline, some authors claim that the online channel leads to more impulsive purchases than the offline channel (Aragoncillo & Orus, 2018; Greenfield, 1999; LaRose, 2001).

Since meal-kit boxes are more likely to be bought planned whereas fresh packages are more likely to be bought on impulse, a comparison can be made with literature on planned and impulsive buying. Over the past decade, consumers have increasingly been buying groceries online (Pitts et al., 2018). Although planned purchases are increasingly made online, impulse purchases still take place most often in offline environments (Duarte et al., 2013). Therefore, planned buyers are expected to strengthen the effect of online on the purchase intention of meal-kits and impulsive buyers are expected to weaken this relationship.

H6a: The negative effect of offline on purchase intention of meal-kits is stronger for planned buyers than for impulsive buyers.

Meal-kit boxes are often subscription-based (Cho et al., 2020), which suggests that planning is necessary. Meal planning is the forward planning of the foods that will be eaten in the coming days (Ducrot et al., 2017). Meal planning is of importance in planned buying behaviour since planned buyers plan further ahead (Lee & Kacen, 2008). However, for impulsive buying, planning is not necessary because the decision of whether or not to buy is made in the store (Bucklin & Lattin, 1991). Since both buying behaviours differ in the degree of planning, planned and impulsive buying are likely to affect the preferred type of meal-kit. As planned buyers plan further ahead (Lee & Kacen, 2008), planned buyers are expected to weaken the preference for fresh packages, whereas impulsive buyers are expected to strengthen this relationship.

H6b: The negative effect of meal-kit boxes on purchase intention of meal-kits is weaker for planned buyers than for impulsive buyers.

Planned purchases are determined before entering the store. Therefore, in-store pricing and promotions have less effect on planned purchases. In contrast, for unplanned (impulsive) purchases, the decision of whether or not to buy is made in the store and thus depends on the prevailing in-store marketing activities (Bucklin & Lattin, 1991; Kahn & Schmittlein, 1992). Moreover, the findings of several other studies have confirmed that consumers are more impulsive when there are sales or product discounts (Badgaiyan & Verma, 2015; Laroche et al., 2003; Liao et al., 2009; Tinne, 2011; Virvalaite et al., 2009).

However, planned buyers may also be guided by promotions when planning their purchases. Bellini et al. (2016) found out that 15.5% of the ‘professional’ shoppers planned their purchases based on promotions. However, the authors also state that the lower the shopping preparation, the higher the impulse tendency and thus the more sensitive one is to promotions (Bucklin & Lattin, 1991; Kahn & Schmittlein, 1992).

Since most purchases in a grocery store environment are made on impulse (Duarte et al., 2013), monetary and non-monetary promotions are expected to have a more positive effect on impulsive buyers than planned buyers, since impulsive buyers tend to be more sensitive to promotions.

H6c: The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weaker for planned buyers than for impulsive buyers.

The following control variables were included in this study: age, gender, education level, familiarity with meal-kits, and familiarity with online grocery shopping. It was expected that results may differ across these control variables. Brunner et al. (2010) found that age and gender have a significant effect in predicting convenience food consumption. In addition, a higher level of education increases awareness and consumption of healthy food (Hulshof, Brussaard, Kruizinga, Telman, & Löwik, 2003).

4. Methodology

4.1 Research design

This study examined the effects of different meal-kit characteristics and sales promotions on the purchase intention of meal-kits, taking into account the moderating effects of health consciousness, convenience-orientation, and planned versus impulsive buying behaviour. For this study, a quantitative method was applied to test the stated hypotheses. Quantitative research allows for a larger sample size, which in turn improves generalisability to a large population (Myers, 2020). This improves the external validity of the research, i.e. the extent to which findings are generalisable (Vennix, 2019). Data was collected via an online experiment. In an experiment, one or more independent variables are manipulated to determine the effect of one or more dependent variables (Boeije, 't Hart, & Hox, 2009). The experiment was conducted online via Qualtrics, as this allows to compute data directly into a data file (Van Selm & Jankowski, 2006). Moreover, the response rate is higher and a wider audience can be reached (Sue & Ritter, 2012). A cross-sectional questionnaire was used, which means that data is collected at only one point in time (Olsen, & St. George, 2004). This was chosen because cross-sectional research is less time-consuming, and for this master's thesis only limited time is available.

For the online experiment, a 2 (meal-kit boxes versus fresh packages) x 2 (offline versus online) x 3 (no promotion, monetary promotion, non-monetary promotion) design was used, yielding 12 scenarios. The study was conducted according to a mixed design which is a combination of within-subjects and between-subjects designs (Altermatt, n.d.). In this mixed design, respondents were presented with three scenarios, consisting of a scenario where no promotion was applied, a scenario where monetary promotion was applied, and a scenario where non-monetary promotion was applied. The scenarios were randomly assigned to the respondents to avoid bias. When assigned to three of the scenarios, respondents were asked the same questions about the purchase intention of meal-kits. A mixed design was chosen because it comes with the advantages of a within-subjects and a between-subjects design. The within-subjects design adds statistical power, while the between-subjects design helps to eliminate threats to internal validity (Altermatt, n.d.). Moreover, with a within-subjects design, all scenarios would be assigned to the respondents, which is not efficient because it would take too much time. In a between-subjects design, only one of the scenarios would be assigned to the respondents, leaving the researcher with fewer results. The use of a mixed

design was therefore optimal, as more data could be collected without making the questionnaire too long.

The online experiment started with a short introduction, followed by three scenarios in which questions were asked regarding purchase intention. Furthermore, some questions were asked about the intention to buy groceries planned or impulsive. Next, some questions were asked about consumers' health consciousness and convenience-orientation. Finally, questions were asked to measure the control variables: age, gender, education level, familiarity with meal-kits, and online grocery shopping. These questions were asked at the end of the online experiment as they are the least important and the concentration of respondents may be lower at the end of the questionnaire (Galesic & Bosnjak, 2009; McDonald, Burnett, Coronado, & Johnson, 2003; Vennix, 2019). The questions about familiarity with meal-kits and online grocery shopping were asked first because this is in line with the subject of the online experiment. After this, general questions about gender, age, and education level were asked. As the study was conducted among Dutch consumers, the questions have been translated from English to Dutch to avoid misunderstandings.

To check whether the online experiment was clear and free of errors, a pre-test was conducted to check whether the respondents interpreted the questions correctly. The pre-test was conducted among five respondents belonging to the target group (18 years or older) to provide feedback. Based on the feedback received, some minor adjustments were made. In addition, the pre-test was used to determine the time needed to answer the questions. This was included in the introduction to the final experiment.

4.2 Sample design

The data was collected from a sample of the total population of Dutch people. The minimum age of respondents of 18 years was assumed for the sampling, as consumers must have sufficient power in grocery shopping. Respondents were gathered via either social media platforms, WhatsApp, or in person, by sharing a digital link to the online experiment.

An appropriate sample size is required for validity (Hair, Black, Babin, & Anderson, 2019). The sample size of this research was determined based on several criteria. This study made use of a regression analysis. Hair et al. (2019) state that in regression analysis, according to the general rule, there should be at least 5 observations of each independent variable. Since this research consists of six variables (moderators included), at least $5 \times 6 = 30$ observations must be generated. Once including the control variables, this should be $5 \times 11 =$

55 observations. Since this is an absolute minimum, the desired level is taken into account. The desired level states that 15 to 20 observations must be generated for each independent variable. For this research having 165 observations should be generalisable if the sample is representative (Hair et al., 2019). Since this study uses a mixed design in which respondents are each presented with three scenarios, this will lead to a total of 495 completed scenarios, which means approximately 41 respondents per scenario ($495 / 12 = 41.25$).

4.3 Operationalisation

This paragraph explains the operationalisation for all included variables. A concrete overview can be found at the end of this paragraph in Table 1.

In this study, scenarios were used for the independent variables ‘meal-kit boxes versus fresh packages’, ‘offline versus online’, and ‘sales promotions’. The scenarios were formulated following the hypotheses of these three independent variables. The introductory texts of all 12 scenarios are included in Appendix 1. Images were used to illustrate the differences between meal-kit boxes and fresh packages. For meal-kit boxes, no explicit recipe is seen on the package while for fresh packages this is the case. For fresh packages, a package with lasagne was chosen because this is a fairly neutral dish. It contains no exotic ingredients that could influence the respondent subconsciously. In addition, it was mentioned that images are for illustrative purposes. As brands were not part of this research, brand names were not mentioned in the scenarios. This prevents respondents from being influenced by them.

For the type of channel, respondents were exposed to offline and/or online scenarios. The introductory texts of the scenarios explicitly mentioned the type of channel involved.

The sales promotions, which consisted of no promotion, monetary promotion, and non-monetary promotion, used a discount of 25% (monetary) and a free set of wooden kitchen utensils (non-monetary) as a premium. A discount rate of 25% was chosen because Bogomolova, Dunn, Trinh, Yalor and Volpe (2015) found out that the average discount rate used by supermarkets was 25%. Their study examined discount rates in the United States across two supermarket chains and 20 product categories, including many food products. A free set of wooden kitchen utensils was chosen as a premium because it is a neutral product. At the very least, the premium should be healthy, so that the degree of health consciousness of a respondent does not affect the effectiveness of the non-monetary promotion. In addition, offering a food product as a premium could also lead to taste preferences or resistance due to allergies. Moreover, many people use kitchen utensils when cooking, so it would appeal to

many people. Meal-kit boxes and fresh packages cost around €10 per meal (four portions). So the value of a 25% discount is more or less equal to the value of wooden kitchen utensils.

Purchase intention was measured with a scale developed by Grewal, Monroe and Krishnan (1998), based on a scale previously developed by Dodds, Monroe and Grewal (1991). Purchase intention is often called willingness to buy and is defined as the likelihood that the buyer intends to purchase the product (Bruner, 2009; Dodds et al., 1991; Grewal et al., 1998b). The choice of the scale by Grewal et al. (1998) has to do with the high-reliability values reported of .92 and .95. In addition, since this study uses a mixed design in which respondents are offered three scenarios, it is important not to include too many questions. The scale by Grewal et al. (1998b) uses three questions to measure purchase intention. The items were measured on 7-point Likert scales, anchoring from very low to very high (Grewal et al., 1998b).

Health consciousness was measured using a scale developed by Chandon and Wansink (2007). The 'Nutrition Involvement' scale can be used to measure the degree of importance a person attaches to healthy eating, but the scale also measures the amount of attention paid to nutritional information in a particular situation (Bruner, 2014; Chandon & Wansink, 2007). Chandon & Wansink (2007) reported a reliability level of .83. The scale consists of eight items; five items measuring the degree of importance a person attaches to healthy eating and three items on the amount of attention paid to nutritional information in a particular situation (Bruner, 2014). Since this research is about health consciousness rather than about nutritional information, the last three items about nutritional information were omitted. The five items that will be included in this research were answered on a 5-point Likert scale (Bruner, 2014; Chandon & Wansink, 2007). The anchors of this scale are not described by Chandon and Wansink, but in this research, they will be: completely disagree to completely agree, with agree nor disagree in the middle.

Convenience-orientation was measured with a scale developed by Candel (2001). Convenience-orientation is referred to as "the degree to which a consumer is inclined to save time and energy as regards meal preparation" (Candel, 2001, p. 17). The final scale to measure convenience-orientation consists of six items which are used in this study. The six items were measured on a 7-point Likert scale ranging from completely disagree to completely agree, with agree nor disagree in the middle.

The moderator 'planned versus impulsive' was measured with a buying impulsiveness scale, developed by Rook and Fisher (1995). Buying impulsiveness is defined as "a consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically"

(Rook & Fisher, 1995, p. 306). Rook and Fisher (1995) reported alphas of .88 and .82, indicating good reliability, while Peck and Childers (2003) reported even higher alphas of .90 and .88 (Bruner, Hensel, & James, 2005). The scale consists of nine items, measured on a 5-point Likert scale ranging from strongly disagree to strongly agree (Rook & Fisher, 1995). When conducting the analysis, it can be determined whether the respondent, in general, has a planned or impulsive buying behaviour for grocery shopping.

Several control variables were used in this study. Questions were asked concerning respondents' age, gender, education level, familiarity with meal-kits, and familiarity with online grocery shopping.

The final set of questions for the online experiment can be found in Appendix 2.

<i>Variable</i>	<i>Operationalisation</i>	<i>Source</i>
Meal-kit boxes versus fresh packages	One dummy variable with two options, indicating whether it is about a meal-kit box or a fresh package (0/1)	
Offline versus online	One dummy variable with two options, indicating whether the meal-kit is offline or online available (0/1)	
Promotions	Three dummy variables with two options, indicating whether the meal-kit is accompanied by no promotion (0/1), monetary promotion (0/1) or non-monetary promotion (0/1) is at stake - No promotion - Monetary promotion: 25% discount - Non-monetary promotion: a free set of wooden kitchen utensils	
Purchase intention of meal-kits	Purchase intention is measured with a 7-point Likert scale (very low – very high): - If I were going to buy a meal-kit/fresh package, the probability of buying this one is - The probability that I would consider buying this product is - The likelihood that I would purchase this meal-kit/fresh package is	(Grewal et al., 1998b)
Planned versus	Planned versus impulsive is measured with a 5-point Likert scale (strongly disagree – strongly agree)	(Rook & Fisher,

impulsive	- I often buy things spontaneously - “Just do it” describes the way I buy things - I often buy things without thinking - “I see it, I buy it” describes me - “Buy now, think about it later” describes me - Sometimes I feel like buying new things on the spur of the moment - I buy things according to how I feel at the moment - I carefully plan most of my purchases (reverse coded) - Sometimes I am a bit reckless about what I buy	1995)
Health consciousness	Health consciousness is measured with a 5-point Likert scale (completely disagree – agree nor disagree – completely agree): - I watch what I eat - I pay attention to what I eat - I pay attention to how much I eat - Eating healthy is important to me - Nutritional information influenced me	(Chandon & Wansink, 2007)
Convenience-orientation	Convenience-orientation is measured with a 7-point Likert scale (completely disagree – agree nor disagree – completely agree): - The less physical energy I need to prepare a meal, the better - The ideal meal can be prepared with little effort - Preferably, I spend as little time as possible on meal preparation - I want to spend as little time as possible cooking - At home, I preferably eat meals that can be prepared quickly - It’s a waste of time to spend a long time in the kitchen preparing a meal	(Candel, 2001)
Age	What is your age? (open question)	
Gender	What is your gender? <i>Male/Female/Other</i>	
Education level	What is your highest level of education? <i>None/Primary education/Secondary education/Secondary vocational education/Higher professional education/University education</i>	

Familiarity with meal-kits	- To what extent are you familiar with meal-kits? (<i>measured with a 5-point Likert scale: very unfamiliar – neutral – very familiar</i>) - How often do you buy a meal-kit? (<i>measured with a 5-point Likert scale: never – rarely – sometimes – often – always</i>)	
Familiarity with online grocery shopping	- To what extent are you familiar with online shopping? (<i>measured with a 5-point Likert scale: very unfamiliar – neutral – very familiar</i>) - How often do you buy your groceries online? (<i>measured with a 5-point Likert scale: never – rarely – sometimes – often – always</i>)	

Table 1: Operationalisation

4.4 Methodology

The online experiment was designed using Qualtrics, an online tool that helps develop and distribute the questionnaire. Once the sample size requirements were met, the data was exported to IBM SPSS Statistics, where multiple regression analysis was performed. Multiple regression analysis is the most widely used statistical dependence technique, used to analyse the relationship between one dependent variable and multiple independent variables (Hair et al., 2019). In this study, the purchase intention of meal-kits is the only dependent variable. Moreover, this research consists of three independent variables and three moderators, which allows for multiple regression analysis. Multiple regression analysis was conducted to test whether the independent variables ‘type of channel’ (offline versus online), ‘type of meal-kit’ (meal-kit box versus fresh package), and ‘type of promotion’ (no promotion, monetary promotion, non-monetary promotion) affect the dependent variable purchase intention, while being moderated by health consciousness, convenience-orientation, and planned versus impulsive buying. These moderators can cause a change in the direct relationships.

Since the variables purchase intention, health consciousness, convenience-orientation, and planned versus impulsive were measured with scales consisting of several items, new variables were computed based on the average score on all items for each respondent (summated scales). Before using the moderators in the analysis, they were also mean-centred because of their metric measurement level and to avoid multicollinearity. Moreover, mean-centring makes it easier to interpret the results (Field, 2018; Hair et al. 2019).

Although regression analysis is based on metric variables, non-metric variables can be used (Field, 2018; Hair et al., 2019). To include these in the analysis, dummy variables were created for the type of channel (offline versus online), the type of meal-kit (meal-kit box versus fresh package), and the type of promotion (no promotion, monetary promotion, non-monetary promotion). Each category of the non-metric variable is represented by 1 or 0. Also, the control variables gender and educational level were transformed into dummy variables.

4.5 Research ethics

This research was conducted according to ethical standards. Participation in this study was voluntary and the respondent had the right to withdraw at any time. Moreover, the respondent completed the online experiment in his/her environment, so the researcher could not influence the way the questions were completed. Before answering the questions, the introduction described the purpose of the research and rights such as privacy and confidentiality. Consumers can be assured that their anonymity is guaranteed and that results cannot be traced back to an individual. Therefore, no names, zip codes, and so on were requested. The results were displayed and processed transparently. Furthermore, the data was kept confidential during storage and use, and only the researcher had access to the dataset. The results are only used for research purposes and will not be shared with other parties.

5. Results

5.1 Reliability analysis

In this study, the constructs ‘purchase intention’, ‘health consciousness’, ‘convenience-orientation’, and ‘planned versus impulsive’ were each measured with multiple items. Before these items could be combined into summated scales, their reliability was checked. Reliability means that a measure consistently reflects the construct it measures (Field, 2018). The reliability of a scale can be determined with Cronbach’s Alpha. Before conducting the reliability analysis, item 8 of the ‘planned versus impulsive’ scale was reverse coded.

To measure the internal consistency of a scale, a Cronbach’s Alpha of $\alpha = .70$ is often used as the minimum threshold (Field, 2018). The results of the reliability analysis can be found in Appendix 3. The purchase intention scale has a Cronbach’s Alpha of $\alpha = .973$, indicating that purchase intention is measured with a very reliable scale. Deleting one of the three items would not increase the Cronbach’s Alpha.

Next, the following Cronbach’s Alpha values were found: $\alpha = .824$ (health consciousness), $\alpha = .907$ (convenience-orientation), and $\alpha = .824$ (planned versus impulsive). Deleting one of the 6 items of the convenience-orientation scale, would not increase Cronbach’s Alpha. However, for the ‘health consciousness’ and ‘planned versus impulsive’ scales, Cronbach’s Alpha could be increased to $\alpha = .836$ when one of the items was deleted. In both cases, it was decided not to delete the items because Cronbach’s Alpha is already high enough and the improvements are not substantial. Moreover, deleting one of the items would harm the validity because not all aspects of the constructs might be measured.

5.1 Sample

A total of 195 respondents completed the questionnaire. No missing data were detected as all 195 respondents completed the full questionnaire. This results in a total number of valid responses of $N = 195$.

The descriptives of the sample are shown in Table 2. Of the total number of 195 respondents, 59 (30.3%) were male and 136 (69.7%) were female. The mean age of the sample was 43.8051 years, with a range from 18 to 85 years (Table 4). In this study, the metric variable ‘age’ was used for the analyses. However, to view the distribution of age, an additional variable categorising age was created. Most respondents belonged to the following age categories: 18-24 years (48; 24.6%), 45-54 years (49; 25.1%), and 55-64 years (51;

26.2%). More than half of the respondents are higher educated; 43.6% of the respondents have higher professional education and 19% have university education.

In addition, respondents were asked about their familiarity with meal-kits and online grocery shopping. Many respondents said they were familiar with meal-kits (familiar: 52.3%, very familiar: 12.3%), but fewer said they buy them (sometimes: 32.3%, often: 14.4%). The mean for familiarity with meal-kits was 3.51, while for the frequency of buying a meal-kit it was 2.35 (Table 4). Furthermore, 45.1% of respondents said to be familiar with online grocery shopping and 11.3% said they were very familiar. The majority of the respondents never (45.1%) or rarely (27.7%) do their grocery shopping online. Only 2.1% of respondents said they always do their grocery shopping online. The mean for familiarity with online grocery shopping was 3.18, and for the frequency of doing online grocery shopping, it was 1.94 (Table 4), which refers to the category of ‘rarely’ doing grocery shopping online.

Variable		Frequency	Percentage
Gender	Male	59	30.3
	Female	136	69.7
Age	18-24 years	48	24.6
	25-34 years	22	11.3
	35-44 years	10	5.1
	45-54 years	49	25.1
	55-64 years	51	26.2
	≥ 65 years	15	7.7
Educational level	No education	1	0.5
	Primary education	1	0.5
	Secondary education	22	11.3
	Secondary vocational education	49	25.1
	Higher professional education	85	43.6
	University education	37	19.0
Familiarity with meal-kits	Very unfamiliar	12	6.2
	Unfamiliar	27	13.8
	Neutral	30	15.4
	Familiar	102	52.3
	Very familiar	24	12.3

Frequency of buying a meal-kit	Never	50	25.6
	Rarely	54	27.7
	Sometimes	63	32.3
	Often	28	14.4
	Always	0	0
Familiarity with online grocery shopping	Very unfamiliar	31	15.9
	Unfamiliar	35	17.9
	Neutral	19	9.7
	Familiar	88	45.1
	Very familiar	22	11.3
Frequency of doing online grocery shopping	Never	88	45.1
	Rarely	54	27.7
	Sometimes	33	16.9
	Often	16	8.2
	Always	4	2.1

Table 2: Sample statistics

Table 3 shows the distribution of respondents across the scenarios, as well as the descriptive statistics concerning purchase intention. The average purchase intention is 3.7595 (N = 585). The purchase intention is highest with monetary promotion and lowest with non-monetary promotion, with no promotion in between. Furthermore, purchase intention is higher for offline channels than for online channels. Finally, fresh packages have a higher average purchase intention than meal-kit boxes.

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Offline	291	1	7	3.9141	1.65972
Online	294	1	7	3.6066	1.62174
Meal-kit boxes	296	1	7	3.4820	1.58751
Fresh packages	289	1	7	4.0438	1.66006
No promotion	195	1	7	3.8085	1.63118
Monetary promotion	195	1	7	3.9556	1.64427
Non-monetary promotion	195	1	7	3.5145	1.64180
Purchase intention	585	1	7	3.7595	1.64654

Table 3: Descriptive statistics – purchase intention

Table 4 consists of the descriptive statistics for the moderators and the control variables age, familiarity with meal-kits, and familiarity with online grocery shopping. Each respondent filled in these questions once, resulting in N = 195.

The mean score for health consciousness was 3.7959, indicating that respondents of this study were, on average, health-conscious. For the construct convenience-orientation, a mean of 3.8085 was found. On a 7-point Likert scale, this indicates that respondents on average have some need for convenience. Finally, planned versus impulsive has a mean of 2.7236, corresponding to the neutral point of the scale. This indicates that, on average, respondents could not be considered planned or impulsive.

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Health consciousness	195	2	5	3.7959	0.60478
Convenience-orientation	195	1	6.83	3.8085	1.34140
Planned versus impulsive	195	1.11	4.11	2.7236	0.61857
Age	195	18	85	43.8051	16.60589
Familiarity with meal-kits	195	1	5	3.51	1.072
Frequency of buying a meal-kit	195	1	4	2.35	1.017
Familiarity with online grocery shopping	195	1	5	3.18	1.302
Frequency of doing online grocery shopping	195	1	5	1.94	1.066

Table 4: Descriptive statistics

5.3 Assumptions

Before checking the assumptions for multiple regression, the (metrically scaled) moderators ‘health consciousness’, ‘convenience-orientation’, and ‘planned versus impulsive’ were mean-centred to avoid multicollinearity and to make it easier to interpret the results. Afterwards, the following assumptions must be met: metric measurement level, normality, linearity, homoscedasticity, multicollinearity, and the independence of error terms (Field, 2018).

Firstly, the variables must be metric. Since dummies were created for the non-metric variables, these variables can be considered metric. Thus, this assumption was met.

Secondly, normality was examined. Normality was checked using the histogram, the P-P plot, and the Kolmogorov-Smirnov and Shapiro-Wilk W tests, all of which are included in Appendix 4. The histogram showed that the observations are not extremely skewed left or right. Looking at the P-P plot, the data appear to be more or less normally distributed. The data points are approximately on the diagonal line, indicating a normal distribution. In addition, a formal normality test was performed. The Kolmogorov-Smirnov ($D(585) = .132, p = < .001$) and Shapiro-Wilk ($D(585) = .949, p = < .001$) tests show that the dependent variable purchase intention is not normally distributed. Although this normality test indicates non-normality, the histogram and P-P plot look fairly normally distributed. Because of the large sample size of this study and because of the central limit theorem, it was not necessary to apply transformations to the dataset. The central limit theorem states that a normal distribution may be assumed as soon as $N > 30$ (Field, 2018). In this case, $N = 195$, with a total of 585 observations. The sample size is thus large enough to conclude that the data are more or less normally distributed and the assumption of normality was met.

To check for linearity and homoscedasticity, a scatterplot was made (Appendix 5). The scatterplot showed that the residuals were randomly and evenly distributed. Since there is no specific pattern in the data and linearity was observed, the assumptions of both linearity and homoscedasticity were met.

Next, multicollinearity was assessed by looking at the tolerance and the VIF values and the correlations. The assumption of multicollinearity is met when all tolerance values are above .20 and the VIF values are below 10 (Hair et al., 2019). Looking at the VIF values, all are below 10 (Appendix 6, Table 3). The tolerance values are also above .20, except for the values of health consciousness, convenience-orientation, and planned versus impulsive. The tolerance values of these variables are slightly below the threshold of .20, which is probably because they were already mean-centred because of their metric measurement level. For example, centring can reduce multicollinearity (Field, 2018; Hair et al., 2019; Robinson & Schumacker, 2009). In addition, the correlation matrix (Appendix 6, Table 4) showed that there is no multicollinearity, as there are no Pearson's Correlation values above the threshold of $> .80$. Since the VIF values appear quite normal (below 10) and no extremely low tolerance values were found for the moderators, it was assumed that there is no multicollinearity.

Finally, the error terms must be independent. This assumption can be tested with the Durbin-Watson test. In this study, a value of 2.122 was found (Appendix 7, Table 5), which is

within the acceptable range of 1 to 3. Values less than 1 or greater than 3 are an indication of autocorrelation, and a value of 2 means that the residuals are uncorrelated (Field, 2018). However, this assumption was only met statistically. As respondents were presented with different conditions (no promotion, monetary promotion, non-monetary promotion), there is always some dependency as respondents may have been influenced by their previous answers. Nevertheless, the statistical results show that there is variance across the error terms.

Overall, the assumptions for multiple regression were met, which means that the analysis could be performed.

5.4 Multiple Regression

In this study, a multiple regression analysis was conducted to test the effects of channel type (offline versus online), type of meal-kit (meal-kit boxes versus fresh packages), and sales promotions (no promotion, monetary promotion, non-monetary promotion), while moderating for health consciousness, convenience-orientation, and planned versus impulsive buying. To test for the effects, meal-kit boxes, offline, no promotion, female, and higher professional education were included as reference categories. The choice of these reference categories was related to the direction of the formulated hypotheses. Female and higher professional education were chosen as reference categories because these were the largest groups.

The first table of the output contains the model summary. The R Square for this model is .292, which means that 29.2% of the variance in the dependent variable purchase intention, is explained by the model. The Adjusted R Square is .254, which is slightly lower than the R Square because it corrects for the complexity of the model. The ANOVA table tested the significance of the regression model. The F-test is significant ($F(30,554) = 7.630, p < .001$), which means that the model is significant and can be used to test the hypotheses. Both the model summary and ANOVA table can be found in Appendix 7.

5.4.1 Interpretation of the main effects

In this study, a 95% confidence interval was used to test the effects ($\alpha = .05$). The results of the coefficients can be found in Table 5. For the interpretation of the results, the unstandardized coefficients were considered.

It can be concluded that purchase intention is higher for offline compared to online bought meal-kits ($\beta = -.284, p < .05$). This is in contrast to H1, which expected a higher

purchase intention for online bought meal-kits. Even though H1 could not be supported, the type of channel affects the purchase intention of meal-kits.

In line with H2, fresh packages lead to higher purchase intention than meal-kit boxes ($\beta = .587, p < .001$). Thus, the type of meal-kit also affects purchase intention.

The last main effect concerns the type of promotion (no promotion, monetary promotion, non-monetary promotion). In contrast to H3a, non-monetary promotion reduces purchase intention ($\beta = -.295, p < .05$). Monetary promotion, however, as expected, has a positive effect on purchase intention, but the results are not significant ($\beta = .118, p = .416$). As both are contrary to expectations, H3a cannot be supported.

To test H3b, the reference category was changed from ‘no promotion’ to ‘non-monetary promotion’. The changed coefficients can be found in Appendix 8. In line with H3b, monetary promotions have a more positive effect on the purchase intention of meal-kits than non-monetary promotions ($\beta = .413, p < .01$). Thus, H3b is supported.

5.4.2 Interpretation of the interaction effects

H4a, H4b and H4c tested the interactions between health consciousness and the main effects. In contrast to H4a, health consciousness has no significant effect on the relationship between online and purchase intention ($\beta = -.054, p = .800$). Therefore, H4a cannot be supported. Also contrary to H4b, health consciousness has no significant effect on the relationship between fresh packages and purchase intention ($\beta = .209, p = .312$). Therefore, H4b is not supported. Finally, in contrast to H4c, health consciousness has no significant effect on the relationship between monetary promotion and purchase intention ($\beta = -.279, p = .259$), and also for the interaction with non-monetary promotion the results are non-significant ($\beta = -.236, p = .346$). Since both aspects of H4c are non-significant, H4c cannot be supported. So, health consciousness does not affect the type of channel, type of meal-kit, and type of promotion.

Next, H5a, H5b, and H5c tested the interactions between convenience-orientation and the main effects. In contrast to H5a, convenience-orientation has no significant effect on the relationship between online and purchase intention ($\beta = .146, p = .113$). Therefore, H5a cannot be supported. In line with H5b, convenience-orientation weakens the relationship between fresh packages and purchase intention ($\beta = -.212, p < .05$). Therefore, H5b is supported. In contrast to H5c, convenience-orientation has no significant effect on the relationship between monetary promotion and purchase intention ($\beta = .004, p = .968$). Convenience-orientation has also no significant effect on the relationship between non-monetary promotion and purchase intention ($\beta = -.041, p = .712$). Since both aspects of H5c

are non-significant, H5c cannot be supported. So, convenience-orientation does not affect the type of channel and type of promotion, but it does affect the type of meal-kit.

Finally, H6a, H6b, and H6c tested the interactions between planned versus impulsive and the main effects. In contrast to H6a, planned versus impulsive shows a non-significant relationship between online and purchase intention ($\beta = -.253, p = .207$). Therefore, H6a is not supported. In contrast to H6b, planned versus impulsive also has no significant effect on the relationship between fresh packages and purchase intention ($\beta = -.198, p = .323$). Thus, H6b is not supported. Also in contrast to H6c, planned versus impulsive has no significant effect on the relationship between type of promotion and purchase intention ($\beta = -.046, p = .848$ and $\beta = .208, p = .390$). Therefore, H6c cannot be supported. So, planned versus impulsive buying behaviour does not affect the type of channel, type of meal-kit, and type of promotion.

Table 6 provides an overview of which hypotheses are supported and which are not.

5.4.3 Interpretation of the control variables

For the control variables in this study, significant results were only found for age and the frequency of buying meal-kits (familiarity). The values found for age ($\beta = -.029, p < .001$), indicate that with an increase of 1 unit (year), purchase intention decreases by .029. In other words, the older a person is, the lower the purchase intention. For familiarity with meal-kits, significant effects were found for the frequency of buying meal-kits ($\beta = .404, p < .001$), but not for familiarity itself ($\beta = .034, p = .667$). Thus, how familiar one considers oneself has no significant influence on the relationships, but frequency does. The positive β -coefficient for frequency of buying meal-kits indicates that the more often someone buys a meal-kit, the higher the score on purchase intention.

For gender ($\beta = -.035, p = .790$), educational level ($\beta = -1.677, p = .057$; $\beta = -1.153, p = .181$; $\beta = -.090, p = .660$; $\beta = .122, p = .428$; $\beta = .032, p = .854$), familiarity with online grocery shopping ($\beta = .005, p = .934$), and frequency of doing online grocery shopping ($\beta = .016, p = .815$), no significant results were found. This means that the purchase intention of meal-kits does not depend on gender, educational level, and familiarity with online grocery shopping.

Variable	Hypothesized effect	B-coefficient	Std. Error	Sig.
<i>Constant</i>		3.833	.322	.000

Online	<i>H1: +</i>	-.284	.122	.020
Fresh package	<i>H2: +</i>	.587	.120	.000
Monetary promotion	<i>H3: +</i>	.118	.145	.416
Non-monetary promotion	<i>H3: +</i>	-.295	.145	.043
Health consciousness		.085	.234	.717
Convenience-orientation		.130	.102	.204
Planned versus impulsive		.419	.219	.056
<i>Interaction effects</i>				
Online*healthconsciousness	<i>H4a: -</i>	-.054	.214	.800
Freshpackage*healthconsciousness	<i>H4b: -</i>	.209	.207	.312
Monetarypromotion*healthconsciousness	<i>H4c: -</i>	-.279	.247	.259
Nonmonetarypromotion*healthconsciousness	<i>H4c: -</i>	-.236	.250	.346
Online*convenienceorientation	<i>H5a: +</i>	.146	.092	.113
Freshpackage*convenienceorientation	<i>H5b: -</i>	-.212	.090	.020
Monetarypromotion*convenienceorientation	<i>H5c: -</i>	.004	.110	.968
Nonmonetarypromotion*convenienceorientation	<i>H5c: -</i>	-.041	.110	.712
Online*plannedvsimpulsive	<i>H6a: +</i>	-.253	.200	.207
Freshpackage*plannedvsimpulsive	<i>H6b: -</i>	-.198	.200	.323
Monetarypromotion*plannedvsimpulsive	<i>H6c: -</i>	-.046	.241	.848
Nonmonetarypromotion*plannedvsimpulsive	<i>H6c: -</i>	.208	.242	.390
<i>Control variables</i>				
Male		-.035	.132	.790
Age		-.029	.004	.000
No education		-1.677	.878	.057
Primary education		-1.153	.860	.181
Secondary education		-.090	.206	.660
Secondary vocational education		.122	.154	.428
University education		.032	.176	.854
Familiarity meal-kits		.034	.080	.667
Familiarity meal-kits (frequency)		.404	.074	.000
Familiarity online grocery shopping		.005	.064	.934

Familiarity online grocery shopping (frequency)	.016	.070	.815
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Table 5: Coefficients (unstandardized)

	Hypothesis	Conclusion
H1	<i>Purchase intention of meal-kits is lower for offline bought meal-kits than for online bought meal-kits.</i>	Not supported
H2	<i>Purchase intention of meal-kits is lower for meal-kit boxes than for fresh packages.</i>	Supported
H3a	<i>Both monetary and non-monetary promotions have a positive effect on purchase intention of meal-kits.</i>	Not supported
H3b	<i>Monetary promotions have a more positive effect on the purchase intention of meal-kits than non-monetary promotions.</i>	Supported
H4a	<i>The negative effect of offline on purchase intention of meal-kits is weakened by health consciousness.</i>	Not supported
H4b	<i>The negative effect of meal-kit boxes on purchase intention of meal-kits is weakened by health consciousness.</i>	Not supported
H4c	<i>The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weakened by health consciousness.</i>	Not supported
H5a	<i>The negative effect of offline on purchase intention of meal-kits is strengthened by convenience-orientation.</i>	Not supported
H5b	<i>The negative effect of meal-kit boxes on purchase intention of meal-kits is weakened by convenience-orientation.</i>	Supported
H5c	<i>The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weakened by convenience-orientation.</i>	Not supported
H6a	<i>The negative effect of offline on purchase intention of meal-kits is stronger for planned buyers than for impulsive buyers.</i>	Not supported
H6b	<i>The negative effect of meal-kit boxes on purchase intention of meal-kits is weaker for planned buyers than for impulsive buyers.</i>	Not supported
H6c	<i>The positive effect of monetary and non-monetary promotions on purchase intention of meal-kits is weaker for planned buyers than for impulsive buyers.</i>	Not supported

Table 6: Summary of the hypotheses

5.5 Robustness checks

The moderators in this study were found to be non-significant (except for the interaction effect between the type of meal-kit and convenience-orientation). To check whether the model is robust, the continuous variables ‘health consciousness’, ‘convenience-orientation’, and ‘planned versus impulsive’ were split using the median. In the median-split procedure, the variable is split into two groups using the median (Field, 2018; Rucker, McShane, & Preacher, 2015). In doing so, dummy variables were created where each respondent above the median received a score of 1, and everyone below the median received a score of 0. This procedure was used to test whether the non-significant effects of the moderators could be caused by the operationalisation. In other words, it was examined whether the interactions would be significant if the moderators were operationalised as dummies. The results of the robustness check can be found in Appendix 9, Table 8. The results of the robustness check show that transforming the moderators into dummy variables does not lead to changes in significance. Variables that were significant in the original regression analysis are still significant, and vice versa. However, the interaction effect between online and convenience-orientation was non-significant in the previous model ($\beta = .146, p = .113$), but is significant now ($\beta = .596, p < .05$). This indicates that convenience-orientation has a significant effect on the type of channel and that the online channel is preferred over the offline channel. Since there are no other major changes in the data, the model can be said to be robust.

In addition, the variable purchase intention turned out not to be perfectly normally distributed, it was decided to see if the natural logarithm would improve normality. The original analysis was run again, but now with the natural logarithm of purchase intention (Field, 2018). The histogram and the P-P plot show that the variable is more or less normally distributed. However, the histogram and the P-P plot of the original analysis show results that are closer to a normal distribution. Nevertheless, it was decided to continue with the robustness check. The results of this robustness check can be found in Appendix 9, Table 9. The results show that taking the natural logarithm of purchase intention does not lead to major changes. Non-monetary promotion was just significant in the original model ($\beta = -.295, p < .05$) and is now marginally significant ($\beta = -.097, p = .051$). Only some minimal changes in the direction of the unstandardized coefficients were found. Since the natural logarithm yields similar results compared to the original analysis, the regression model can be assumed to be robust.

6. Discussion and conclusions

6.1 Theoretical implications

The purpose of this study was to provide insight into whether the type of channel, the type of meal-kit, and the type of promotion influence the purchase intention of meal-kits, and whether and how these relationships are affected by health consciousness, convenience-orientation, and planned versus impulsive buying.

The purchase intention of meal-kits is higher with offline channels than with online channels. However, it was expected that the online channel would lead to higher purchase intention because it offers more effort reduction than the offline channel (Monsuwé et al., 2004; Morganosky & Cude, 2000). Consumers who buy meal-kits already experience an effort reduction and may therefore not need a further effort reduction by buying online. Moreover, when buying online, consumers have to wait several days for the order to be delivered and have to stay at home (Ramus & Nielsen, 2005). It is therefore doubtful whether the online channel is as convenient as described in the literature. Additionally, research has shown that in the Netherlands, especially 25-40-year-olds do their grocery shopping online (Statista, 2022a). However, the average age of the respondents in this study was 43 years, which may explain the preference for the offline channel in this study. Most respondents in this study do not order their groceries online regularly. This may be because they value the touch-and-feel experience as more important and because they prefer to buy fresh products, such as meal-kits, offline rather than online (Galante et al., 2013; Hanus, 2016; Toomey & Wysocki, 2009; Zheng et al., 2020). Not only age but also gender influences online shopping behaviour. Women are less inclined to do their grocery shopping online (Frank & Peschel, 2020), while women are still the main ones responsible for grocery shopping (Cervellon, Sylvie, Ngobo, 2015). The fact that the majority of respondents in this study were women could have influenced the results.

In addition, purchase intention is also affected by the type of meal-kits since fresh packages lead to higher purchase intention than meal-kit boxes. Most people decide what they want to eat during the day or the day before (Ducrot et al., 2017). This can cause respondents to choose fresh packages over meal-kit boxes because it allows them to not plan further in advance and also because there is no need for storage. Consumers tend to be a bit hesitant in storing fresh food because of its expiry date (Sezen, 2004; Swoboda & Morschett, 2001; Yale & Venkatesh, 1986). However, the effect may also be caused by the fact that fresh packages are sold at regular grocery stores (both offline and online). This can be an indication that

consumers are more familiar with fresh packages than with meal-kit boxes. The availability of fresh packages in regular grocery stores also creates a higher level of consumers' trust (Filipe, Marques, & De Fátima Salgueiro, 2017), indicating that consumers are less hesitant to try something new. The accessibility of fresh packages has caused them to gain popularity while meal-kit boxes are losing ground (Distrifood, 2018b).

The type of promotion also affects the purchase intention of meal-kits. Surprisingly, non-monetary promotions do not lead to a higher purchase intention but reduce the purchase intention. This is striking because promotions encourage consumers to buy a product more quickly, more frequently, and/or in larger quantities than in the absence of promotion (Hawkes, 2009). A possible reason why in this study non-monetary promotions led to a lower purchase intention of meal-kits could be the chosen premium, namely; wooden kitchen utensils. Kitchen utensils can be categorised as a utilitarian premium because of their functionality (Forsythe, Liu, Shannon, & Gardner, 2006). Likely, respondents did not find this premium attractive because consumers already have the necessary kitchen utensils and these are products with a relatively long lifespan. This also explains why hedonic premiums are preferred over utilitarian ones (Palazon & Delgado-Ballester, 2013). However, the fact that non-monetary promotion reduces purchase intention of meal-kits may also be because respondents were influenced by their previous answers. When the respondent is first exposed to a monetary promotion (25% discount), he/she may find wooden kitchen utensils as a premium less attractive than the previously seen promotion. The findings also showed that monetary promotions do not lead to higher purchase intention. This contradicts the literature on price promotions, which shows that monetary promotions can increase purchase intention for both healthy food and convenience food (Ball et al., 2015; Phipps et al., 2014; Riesenberget al., 2019; Waterlander et al., 2010; Waterlander et al., 2012). This indicates that sales promotions work differently for meal-kits than for healthy food and convenience food. It can be that, in the context of healthy convenience food such as meal-kits, discounts are associated with a decrease in value, leading consumers to believe that the products are of lower quality (Grewal et al., 1998a). It was expected that this would not be the case for meal-kits, as they are often considered expensive (Fraser et al., 2021; Khan & Sowards, 2018). Nevertheless, the results of this study may doubt whether meal-kits are perceived as too expensive. If they were perceived as expensive, consumers would have been attracted to promotions, as they temporary lower the price or offer more value through free products. Since the price was not included in this study, it is recommended to include it in future research.

Furthermore, a comparison of the two types of promotion showed that monetary promotions have a more positive effect on purchase intention than non-monetary promotions. These findings are consistent with the literature on convenience food and contradict the literature on healthy food. For convenience food, monetary promotions would work better than non-monetary promotions (Büttner et al., 2015; Sinha & Verma, 2020). This is probably related to the fact that convenience food is often perceived as unhealthy and that monetary promotions avoid overconsumption of these healthier products (Mishra & Mishra, 2011; Wertenbroch, 1998).

Health consciousness does not affect the relationships between channel type, type of meal-kit, and type of promotion on purchase intention. Health-conscious consumers buy especially fresh products because products such as fruit and vegetables enhance healthy behaviours (Mai & Hoffman, 2015; Prasad et al., 2008). Since consumers fear selecting and handling perishables online (Galante et al., 2013; Hanus, 2016; Toomey & Wysocki, 2009), it was expected that health consciousness would affect the type of channel because this allows them to assess the quality of the products. Nevertheless, the effect was not found. Health consciousness also does not affect the type of meal-kit. Since meal planning is very important in healthy behaviour (Michie et al., 2009; Wood & Shukla, 2016), health consciousness was expected to affect the type of meal-kit. Meal-kit boxes determine what consumers will eat in the coming days, which makes it easier for health-conscious consumers to maintain their well-being by engaging in healthy eating behaviours. Health consciousness is also found to not affect sales promotions. A possible explanation might be related to the fact that health-conscious consumers tend not to be very sensitive toward price and promotions (Prasad et al., 2008; Shankar & Krishnamurthi, 1996).

Convenience-orientation does not affect channel type and type of promotion, but it affects the type of meal-kit. Convenience-orientation weakens the negative effect of meal-kit boxes on purchase intention of meal-kits. This implies that convenience-oriented consumers are more inclined to buy meal-kit boxes because they are perceived to save more time and effort (Morganosky, 1986), and therefore are more closely related to their needs. Convenience-oriented consumers see differences in product attributes between fresh packages and meal-kit boxes. It is also found that consumer characteristics may affect the inclination to use a particular shopping channel (Chiang & Dholakia, 2003). However, results showed that this is not the case for meal-kits since convenience-orientation does not affect the type of channel. Nevertheless, the robustness check showed that convenience-orientation affects the type of channel. This is an indication that convenience-oriented consumers look at the

advantages of the online channel, such as shopping convenience, including time savings (Rohm & Swaminathan, 2004). No effects were found on the type of promotion which might be because convenience-oriented consumers tend to be less sensitive towards price and promotions, indicating that they are willing to pay extra for the convenience they seek (Brunner et al., 2010; Swoboda & Morschett, 2001).

Planned versus impulsive buying does not affect the relationships between channel type, type of meal-kit, and type of promotion on purchase intention of meal-kits. Impulse purchases tend to be more often made in offline grocery store environments than in online grocery store environments (Brown et al., 2013; Duarte et al., 2013). Therefore, buying behaviour was expected to affect the type of channel. A possible explanation of why no effect has been found might be because impulsive buying is a complex behaviour (Kacen & Lee, 2002). This can indicate that consumers cannot recognize their grocery buying behaviour. Moreover, planned versus impulsive buying does not affect the preferred type of meal-kits. This is surprising because meal-kit boxes are often based on subscriptions which require planning. Lastly, the absence of an effect with the type of promotion is contradicting to authors who state that both planned as well as impulsive buyers can be guided by promotions. It was also stated that consumers are more impulsive when there are promotions (Badgaiyan & Verma, 2015; Bellini et al., 2016; Laroche et al., 2003; Liao et al., 2009; Tinne, 2011; Virvalaite et al., 2009).

In line with research conducted by Brunner et al. (2010) on convenience food, age also affects the purchase intention of meal-kits. Purchase intention of meal-kits decreases with age, which can be caused by the fact that older people, in general, are used to making traditional meals whereas younger people are more willing to adopt new developments and new cooking skills (Hartmann, Dohle, & Siegrist, 2013). Moreover, the familiarity with meal-kits (frequency), affects the purchase intention of meal-kits. This is quite obvious because, in general, consumers prefer products they are already familiar with. However, researchers found that familiarity is not that important in determining food choice (Prescott, Young, O'Neill, Yau, & Stevens, 2002). Gender, educational level, and familiarity with online grocery shopping were found not to affect the purchase intention of meal-kits. This contradicts the literature on healthy food which found that a higher level of education increases the consumption of healthy food (Hulshof et al., 2003). A possible explanation for why no effect was found might be related to the educational level of respondents in this study. More evenly distributed educational levels could have shown different results.

In summary, the type of channel, type of meal-kit, and type of promotion affect the purchase intention of meal-kits. Non-monetary promotion decreases the purchase intention of meal-kits. Furthermore, there is no difference in the type of channel, type of meal-kit, and type of promotion for neither health consciousness nor planned versus impulsive buying. Convenience-orientation did appear to affect the type of meal-kit. Regarding the control variables, only age and familiarity with meal-kits were found to affect the purchase intention of meal-kits.

6.2 Managerial implications

This study provided important practical implications for managers. First, offline and fresh packages are the preferred type of channel and the preferred type of meal-kit. Although the variety of fresh packages is increasing (AGF, 2021), meal-kit boxes still offer more variety than fresh packages because they offer new recipes every week (Maaltijdbox.org, 2019). To maintain a defensible position, it is recommended to managers to further expand the range of fresh packages in their physical shops (offline) and respond to specific customer needs.

Second, managers should absolutely avoid non-monetary promotions, as they lower purchase intention. Moreover, since no effect was found between monetary promotions and purchase intention of meal-kits, managers should consider whether it is useful to use promotions for meal-kits at all. Sales promotions are quite costly for a company (Hardesty & Bearden, 2003) and might also negatively affect quality perceptions (Grewal et al., 1998a). Lastly, consumer characteristics (health consciousness, convenience-orientation, and planned versus impulsive buying) do not determine the type of promotion preferred.

Third, convenience-orientation affects the type of meal-kit preferred. Whereas in general fresh packages are preferred, convenience-orientation weakens this relationship. The positioning of meal-kit boxes should therefore focus on the aspect of convenience. The robustness check showed that convenience-orientation weakens the effect of offline on purchase intention of meal-kits. Although offline is generally preferred, managers can also try to make the online channel more attractive. For example by offering a subscription-free service, the possibility of selecting meals up to one day in advance, and offering next-day delivery.

Fourth, both health-consciousness and planned versus impulsive buying do not affect the type of channel, type of meal-kit, and type of promotion. It is therefore not necessary to

change the positioning of meal-kits and promotional strategies according to consumers' health-consciousness and buying behaviour.

Fifth, it was found that purchase intention of meal-kits decreases with age. Managers should therefore target their marketing strategies at the younger age groups. Younger target groups include, for example, students, two-person households and families with young children. In general, specialised meal-kit providers such as HelloFresh and Marley Spoon have more experience in offering meal-kits that cater for specific needs. For example, by offering child-friendly family boxes. These specialised providers state this explicitly in their marketing and advertising strategies, whereas suppliers of fresh packages do not. Suppliers of fresh packages can learn from specialised meal-kit providers and look at how they can better align fresh packages with the specific needs of these young target groups. Examples could be: offering child-friendly recipes, easy recipes with few ingredients (ideal for students), and boxes for two-person households. This younger target group can be reached via, for example, social media. A marketing strategy that is often used by providers of meal-kit boxes is influencer marketing. Influencer marketing can also be used by providers of fresh packages to inspire followers and create awareness to stimulate purchases.

Sixth, it also appears that the more often someone buys a meal-kit, the higher the purchase intention. It is therefore important for managers to familiarise potential customers with meal-kits so that they buy their first meal-kit. Here, trial purchases should be encouraged, for example, by providing free samples, product demonstrations in grocery stores or providing coupons. Moreover, in-store signing can create awareness, for example by displays and/or floor stickers. Once consumers have purchased their first meal-kit, it is important to retain these customers and encourage them to buy more and more frequently. In other words, it is important to create loyal customers, which can be achieved by offering loyalty programs.

Finally, managers should not target their marketing strategies, especially at men or women and higher educated people, because gender and educational level do not affect the purchase intention of meal-kits. Also, familiarity with online grocery shopping does not affect the purchase intention of meal-kits. This implies that it is not necessary to spend time making consumers more familiar with online grocery shopping and encouraging online grocery shopping.

6.3 Limitations and future research

This study has several limitations and recommendations for future research. The first limitations are related to the sample. Although the sample in this study was considered sufficiently large, there is a chance that certain effects were found to be non-significant in this study, while they could have been significant in a larger sample. Moreover, the sample is not fully representative of the population. First of all, the age of the respondents is not equally distributed within the sample. According to Statista (2022b), it is mainly 18-44 year-olds who buy meal-kits. In this study, however, only 41% of the sample is between 18-44 years old, including mainly 18-24 year-olds (24.6%). Gender is also not evenly distributed, as the majority are women (69.7%).

Furthermore, the way the sample was drawn can also be seen as a limitation of this study. The respondents in this study are from the researcher's immediate environment. In this study, the respondents were collected through non-probability sampling. In future research, it is recommended to choose a probability sampling method because this implies a random selection and results are therefore more generalizable. In addition, it is suspected that certain parts of the Netherlands are underrepresented in the sample, which makes it unclear whether the results can be generalised to the population. For better generalizability of the results, future research should take into account the demographic distribution of the sample.

Another limitation of this study is related to the independence of error terms. Although this assumption was statistically met, future research should take this into account when designing a study. In future research, it is recommended to correct for the independent error terms or to present respondents with only one scenario and thus not apply a mixed design. When having many scenarios, using a between-subjects design requires a larger sample size to find significant differences. However, a between-subjects design also offers several advantages. In between-subjects designs, order effects do not play a role, because respondents are presented with only one condition (Altermatt, n.d.). This also results in a shorter experiment, which reduces fatigue among respondents (Altermatt, 2014).

In addition, it should be taken into account that this study looked at purchase intention and not at purchase behaviour. Although purchase intention appears to be the main predictor of actual behaviour (Fishbein & Ajzen, 1977), it is advisable to conduct research into actual behaviour in the future. Purchase behaviour can be studied by looking at scanner data, data on loyalty cards and so on.

There are also several limitations to the online experiment. In the scenarios, illustrative images were used for meal-kit boxes and fresh packages (lasagne). At the beginning of the

questionnaire, it was mentioned that the images were for illustrative purposes and that the dish shown did not have to be taken into account when answering the questions. However, respondents may be influenced by the image of the meal-kit. In future research, it is recommended to include more dishes as a control group. The results of this study also showed that non-monetary promotion leads to a lower purchase intention than no promotion. This effect could be due to the chosen premium, namely: wooden kitchen utensils. Although kitchen utensils are a fairly neutral premium, respondents probably did not find this premium attractive. Therefore, it is advisable to use different types of premiums in future research by distinguishing between other utilitarian and hedonic premiums (Palazon & Delgado-Ballester, 2013). In that case, it would be possible to examine whether hedonic premiums are preferred in the context of meal-kits. Since this study only focused on premiums as non-monetary promotions, future research can also focus on examining whether other types of non-monetary promotions increase the purchase intention of meal-kits. Furthermore, it might also be useful to investigate the optimal discount (monetary promotion) and the optimal value of a premium (non-monetary promotion).

In this study, the number of meals included was considered the main difference between meal-kit boxes and fresh packages. However, meal-kit boxes and fresh packages differ in more aspects. Future research will therefore have to look in more detail at the differences between these two types of meal-kits. It might also be interesting to look at the interaction between the type of meal-kit and the type of channel.

Finally, it might also be useful to include additional control variables in future research. For example, the size of the household might have an impact on purchase intention. Nowadays, most fresh packages are targeted at four-person households, which means that buying fresh packages for smaller households might be less interesting. This in turn may have practical implications for managers.

Despite the limitations noted above, this study made a first contribution to the existing literature on healthy and convenience food by looking at the influence of the type of channel, type of meal-kit, and type of promotion on purchase intention of meal-kits, while moderating several consumer characteristics. Moreover, future research can build on and complement the results from this study.

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Appendices

Appendix 1 – Scenarios

Scenario 1 (meal-kit box – offline – no promotion)



1

Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. In hoeverre bent u het eens met de volgende stellingen:

Scenario 2 (meal-kit box – offline – monetary promotion)



2

Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. De maaltijdbox is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:

Scenario 3 (meal-kit box – offline – non-monetary promotion)



3

Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Bij aankoop van deze maaltijdbox krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:

¹ (HelloFresh, n.d.-a)

² (Diverse Stickers B.V., n.d.)

³ (Xenos, n.d.)

Scenario 4 (meal-kit box – online – no promotion)



Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. In hoeverre bent u het eens met de volgende stellingen:

Scenario 5 (meal-kit box – online – monetary promotion)



Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. De maaltijdbox is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:

Scenario 6 (meal-kit box – online – non-monetary promotion)



Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Bij aankoop van deze maaltijdbox krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:

Scenario 7 (fresh package – offline – no promotion)



4

Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. In hoeverre bent u het eens met de volgende stellingen:

Scenario 8 (fresh package – offline – monetary promotion)



Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Dit verspakket is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:

Scenario 9 (fresh package – offline – non-monetary promotion)



Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Bij aankoop van dit verspakket krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:

⁴ (Albert Heijn, n.d.-a)

Scenario 10 (fresh package – online – no promotion)



Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. In hoeverre bent u het eens met de volgende stellingen:

Scenario 11 (fresh package – online – monetary promotion)



Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Dit verspakket is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:

Scenario 12 (fresh package – online – non-monetary promotion)



Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Bij aankoop van dit verspakket krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:

Appendix 2 – Online experiment

Beste deelnemer,

Mijn naam is Lisan Verhoeven en ik ben momenteel aan het afstuderen van de Master Marketing aan de Radboud Universiteit te Nijmegen. Ter afronding van deze studie doe ik onderzoek naar de aankoopintentie van maaltijdpakketten. De vragenlijst zal 5-7 minuten van uw tijd in beslag nemen. Deelname aan dit onderzoek is volledig anoniem. De resultaten worden uitsluitend voor dit onderzoek gebruikt en worden niet gedeeld met derden.

Ik wil u alvast hartelijk bedanken voor uw deelname!

Maaltijdpakketten bestaan uit verse producten en een recept waarmee een verse maaltijd bereid kan worden. Maaltijdpakketten zijn te koop in de supermarkt (zowel offline als online) of online via gespecialiseerde aanbieders zoals HelloFresh.

In dit onderzoek wordt onderscheid gemaakt tussen twee soorten maaltijdpakketten, namelijk: maaltijdboxen en verspakketten.

Maaltijdbox	Verspakket
	
Bevat ingrediënten voor 3 maaltijden	Bevat ingrediënten voor 1 maaltijd

In het eerste onderdeel krijgt u een aantal situaties voorgelegd waarbij steeds een paar vragen gesteld worden. De bijgevoegde afbeeldingen zijn slechts ter illustratie. Voor het beantwoorden van de vragen hoeft u geen rekening te houden met het gerecht op de afbeelding. U mag hiervoor een gerecht naar keuze in uw achterhoofd houden.

Iedere respondent krijgt drie scenario's voorgelegd; no promotion, monetary promotion en non-monetary promotion, welke zijn voorzien van illustratieve afbeeldingen, zie Appendix 1.

Scenario's no promotion

1. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. In hoeverre bent u het eens met de volgende stellingen:
2. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. In hoeverre bent u het eens met de volgende stellingen:
3. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. In hoeverre bent u het eens met de volgende stellingen:
4. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. In hoeverre bent u het eens met de volgende stellingen:

Scenario's monetary promotion

5. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. De maaltijdbox is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:
6. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. De maaltijdbox is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:
7. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Dit verspakket is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:
8. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Dit verspakket is nu verkrijgbaar met **25% korting**. In hoeverre bent u het eens met de volgende stellingen:

Scenario's non-monetary promotion

9. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Bij aankoop van deze maaltijdbox krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:
10. Deze maaltijdbox bevat ingrediënten voor **drie maaltijden**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Bij aankoop van deze maaltijdbox krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:
11. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u een **fysieke winkel** te bezoeken. Bij aankoop van dit verspakket krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:
12. Dit verspakket bevat ingrediënten voor **één maaltijd**. Om gebruik te kunnen maken van dit product dient u **online** een bestelling te plaatsen. Bij aankoop van dit verspakket krijgt u nu tijdelijk een set met **houten spatels cadeau**. In hoeverre bent u het eens met de volgende stellingen:

In hoeverre bent u het eens met de volgende stellingen:

1. Als ik een maaltijdbox/verspakket zou kopen, is de waarschijnlijkheid dat ik deze zou kopen...
2. De waarschijnlijkheid dat ik zou overwegen dit product te kopen is...
3. De waarschijnlijkheid dat ik deze maaltijdbox/dit verspakket zou kopen is...

1 = zeer laag tot 7 = zeer hoog

De volgende vragen gaan over aankoopgedrag. In hoeverre bent u het eens met de volgende stellingen:

1. Ik koop vaak dingen spontaan
2. "Gewoon doen" beschrijft de manier waarop ik dingen koop
3. Ik koop vaak dingen zonder na te denken
4. "Ik zie het, ik koop het" beschrijft mij
5. Ik koop nu en denk er later over na

6. Soms heb ik zin om nieuwe dingen te kopen op het moment dat het mij uitkomt
7. Ik koop dingen op basis van hoe ik me op dat moment voel
8. Ik plan de meeste van mijn aankopen zorgvuldig
9. Soms ben ik een beetje roekeloos in wat ik koop

1 = helemaal mee oneens tot 5 = helemaal mee eens

De volgende vragen gaan over gezondheidsbewustzijn. In hoeverre bent u het eens met de volgende stellingen:

1. Ik let op wat ik eet
2. Ik besteed aandacht aan wat ik eet
3. Ik let op hoeveel ik eet
4. Gezond eten is belangrijk voor mij
5. Voedingsinformatie beïnvloedt mij

1 = helemaal mee oneens tot 5 = helemaal mee eens

De volgende vragen gaan over de behoefte aan gemak. In hoeverre bent u het eens met de volgende stellingen:

1. Hoe minder fysieke energie ik nodig heb om een maaltijd te bereiden, hoe beter
2. De ideale maaltijd kan met weinig moeite bereid worden
3. Het liefst besteed ik zo min mogelijk tijd aan het bereiden van een maaltijd
4. Ik wil zo min mogelijk tijd kwijt zijn aan koken
5. Thuis eet ik bij voorkeur maaltijden die snel klaar te maken zijn
6. Het is zonde van de tijd om lang in de keuken te staan om een maaltijd te bereiden

1 = helemaal mee oneens tot 7 = helemaal mee eens

1. In hoeverre bent u bekend met maaltijdpakketten?
 - 1 = zeer onbekend tot 5 = zeer bekend

2. Hoe vaak koopt u een maaltijdpakket?
 - 1 = nooit tot 5 = altijd
 3. In hoeverre bent u bekend met online boodschappen doen?
 - 1 = zeer onbekend tot 5 = zeer bekend
 4. Hoe vaak koopt u uw boodschappen online?
 - 1 = nooit tot 5 = altijd
-

1. Wat is uw geslacht?
 - Man
 - Vrouw
 - Anders
 2. Wat is uw leeftijd?
—
 3. Wat is uw hoogst genoten opleiding?
 - Geen
 - Basisonderwijs
 - Middelbare school (VMBO, HAVO, VWO)
 - Middelbaar beroepsonderwijs (MBO)
 - Hoger beroepsonderwijs (HBO)
 - Wetenschappelijk onderwijs (WO)
-

Bedankt voor uw medewerking aan dit onderzoek!

Met vriendelijke groet,

Lisan Verhoeven

Appendix 3 – Reliability analysis

Construct	N of items	Cronbach's Alpha	Cronbach's Alpha if item deleted
Purchase intention	3	.973	
Health consciousness	5	.824	.836 (item 5)
Convenience-orientation	6	.907	
Planned versus impulsive	9	.824	.836 (item 6)

Table 1: Summary Cronbach's Alpha

Appendix 4 – Assumption of normality

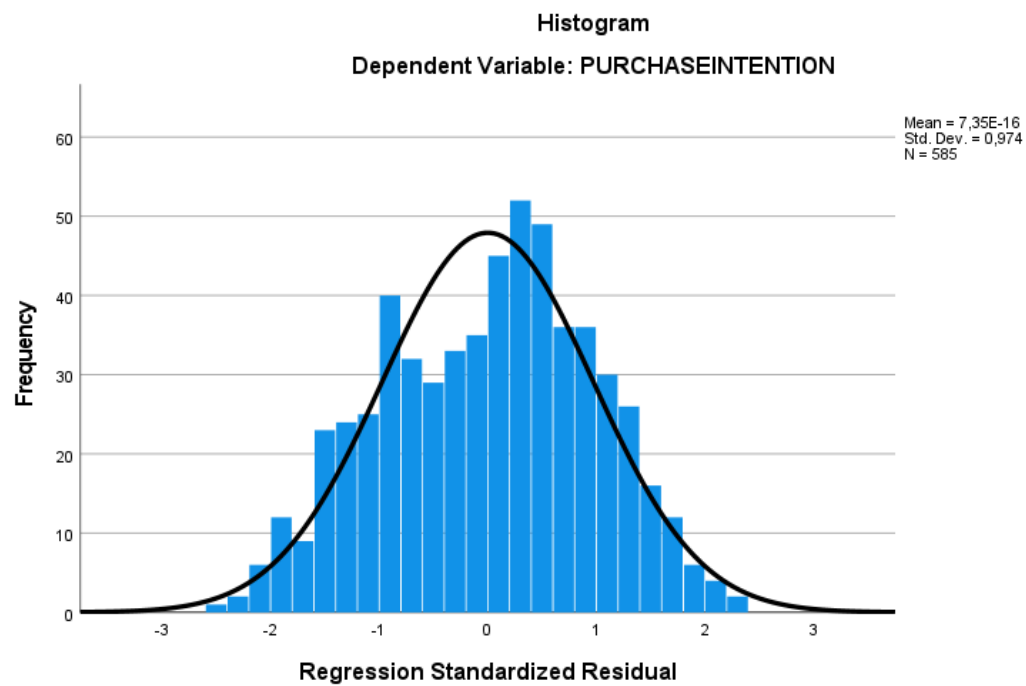


Figure 1: Histogram

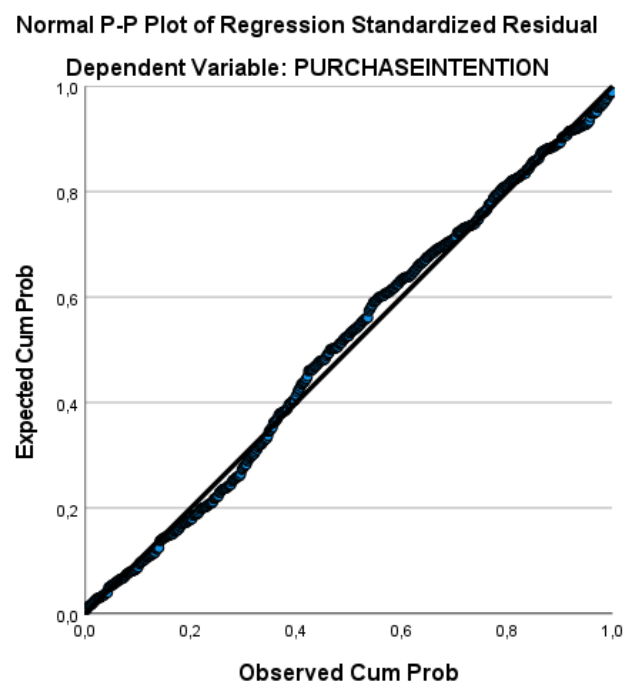


Figure 2: Normal P-P Plot

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Purchase intention	.132	585	.000	.949	585	.000

Table 2: Tests of Normality

Appendix 5 – Assumption of linearity and homoscedasticity

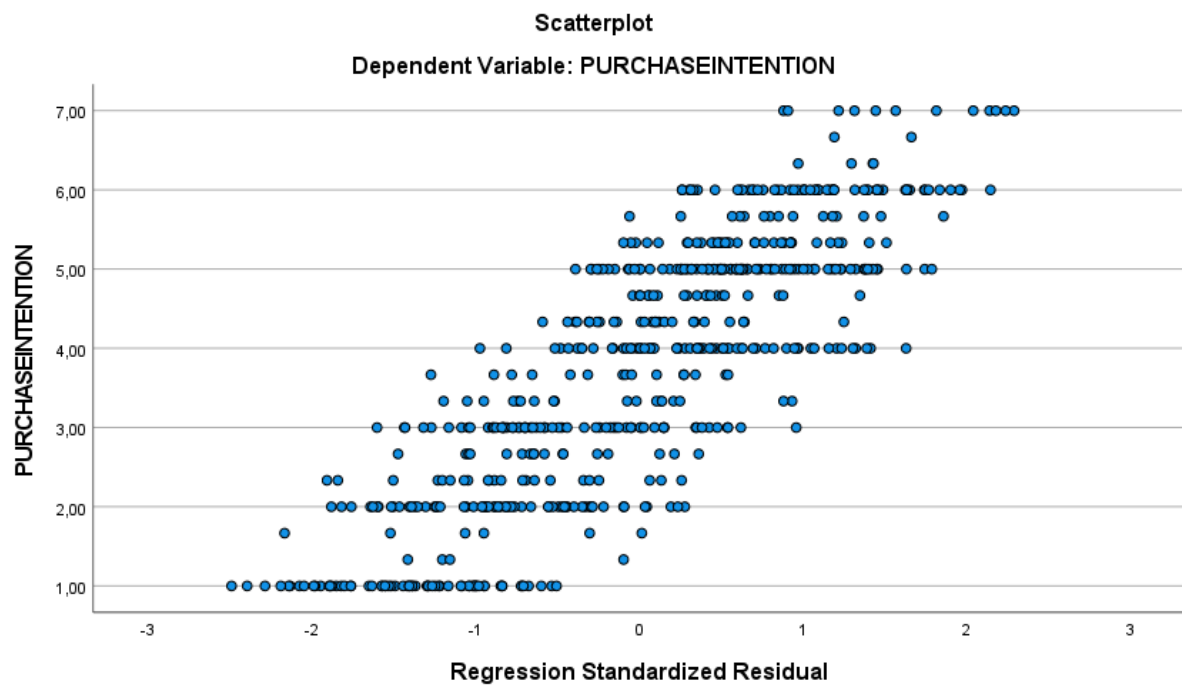


Figure 3: Scatterplot

Appendix 6 – Assumption of multicollinearity

Variable	Tolerance	VIF
Online	.934	1.071
Fresh package	.961	1.040
Monetary promotion	.741	1.350
Non-monetary promotion	.737	1.357
Health consciousness	.174	5.754
Convenience-orientation	.186	5.382
Planned versus impulsive	.189	5.294
Online*healthconsciousness	.360	2.780
Freshpackage*healthconsciousness	.448	2.233
Monetarypromotion*healthconsciousness	.466	2.148
Nonmonetarypromotion*healthconsciousness	.456	2.195
Online*convenienceorientation	.450	2.220
Freshpackage*convenienceorientation	.494	2.025
Monetarypromotion*convenienceorientation	.483	2.072
Nonmonetarypromotion*convenienceorientation	.476	2.099
Online*plannedvsimpulsive	.480	2.085
Freshpackage*plannedvsimpulsive	.457	2.187
Monetarypromotion*plannedvsimpulsive	.470	2.129
Nonmonetarypromotion*plannedvsimpulsive	.465	2.149
Male	.944	1.059
Age	.769	1.300
No education	.879	1.137
Primary education	.916	1.092
Secondary education	.818	1.223
Secondary vocational education	.777	1.287
University education	.723	1.383
Familiarity meal-kits	.478	2.092
Familiarity meal-kits (frequency)	.620	1.612
Familiarity online grocery shopping	.508	1.969
Familiarity online grocery shopping (frequency)	.618	1.618

Table 3: Tolerance and VIF values

		Correlations																	
		PURCHASE INTENTION	Typemk_FP TYPEMK=Fresh in package	Channel_Online CHANNEL=Online	Typemk_MP TYPEMP=Monday promotion	Typemk_NMP TYPEPNP=Non- monetary promotion	HC_s	CONV_s	BUYING_s	GENDER_MALE GENDER=Male	EDUC_1 EDUCATIONA L_LEVEL=De bas	EDUC_2 EDUCATIONA L_LEVEL=Sa sanderwijs	EDUC_3 EDUCATIONA L_LEVEL=Mid delbare school (WBO, HAVO, VWO)	EDUC_4 EDUCATIONA L_LEVEL=Mid delbaar beroepsponde rijns (MBO)	EDUC_5 EDUCATIONA L_LEVEL=We tenschappe k onderwijs (WO)	FAM_MK FAM_MK=In hoeveer maaltijdpakke ten?	FAM_MK_HO FAM_MK_HO W_SFTEN Hoe vaak koopt u een maaltijdpakke ten?	FAM_ON FAM_ON=In hoeveer u bekend met online boodschappen doen?	FAM_ON_HO FAM_ON_HO W_OFTEN Hoe vaak koopt u een boodschappen online?
Pearson Correlation	PURCHASE INTENTION	1.000																	
	Typemk_FP TYPEMK=Fresh package	.171	1.000	-.008	-.031	.041	.003	-.026	-.002	.019	.073	-.023	-.039	.129	-.033	.046	.023	-.018	-.018
	Channel_Online CHANNEL=Online	-.093	-.008	1.000	-.116	.094	.009	.027	.008	.030	-.072	-.034	-.062	-.042	-.010	-.041	-.026	-.079	
	Typemk_MP TYPEMP=MOTION=Mon day promotion	.084	-.031	-.116	1.000	-.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	Typemk_NMP TYPEPNP=Non- monetary promotion	-.105	.041	.094	-.500	1.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	HC_s	.066	.003	.009	.000	.000	1.000	-.145	-.204	-.118	-.142	.072	-.116	-.051	-.023	.024	-.036	-.007	-.010
	CONV_s	.159	-.026	.027	.000	.000	-.145	1.000	.104	-.052	.019	-.106	-.038	.002	.076	.003	.015	.006	-.028
	BUYING_s	.146	-.002	.008	.000	.000	-.204	.104	1.000	-.035	.006	.084	.069	.053	.007	.017	.069	-.077	-.068
	GENDER_MALE GENDER=Male	-.036	.019	.030	.000	.000	-.118	-.052	-.035	1.000	.109	-.047	.012	.004	.023	.000	-.021	-.031	-.070
	EDUC_1 EDUCATIONA L_LEVEL=De bas	-.072	.073	-.072	.000	.000	-.142	.019	.006	.109	1.000	-.005	-.026	-.042	-.035	.033	.046	-.065	.004
	EDUC_2 EDUCATIONA L_LEVEL=Sa sanderwijs	-.048	-.023	-.072	.000	.000	.072	-.106	.084	-.047	-.005	1.000	-.026	-.042	-.035	.034	.046	-.121	-.064
	EDUC_3 EDUCATIONA L_LEVEL=Mid delbare school (WBO, HAVO, VWO)	-.072	-.039	-.034	.000	.000	-.116	-.038	.069	.012	-.026	-.026	1.000	-.207	-.173	-.215	-.076	-.099	-.057
	EDUC_4 EDUCATIONA L_LEVEL=Mid delbaar beroepsponden (MBO)	.002	.129	-.062	.000	.000	-.051	.002	.053	.004	-.042	-.042	-.207	1.000	-.280	-.076	-.016	-.117	-.047
	EDUC_5 EDUCATIONA L_LEVEL=We tenschappe k onderwijs (WO)	.142	-.033	-.042	.000	.000	-.023	.076	.007	.023	-.035	-.035	-.173	-.280	1.000	.272	.050	.215	.063
	FAM_MK FAM_MK=In hoeveer u bekend met maaltijdpakke?	.225	.046	-.010	.000	.000	.024	.003	.017	.000	.033	-.034	-.215	-.076	.272	1.000	.586	.452	.233
	FAM_MK_HO FAM_MK_HO W_SFTEN Hoe vaak koopt u een maaltijdpakke?	.291	.023	-.041	.000	.000	-.036	.015	.069	-.021	.046	.046	-.076	-.016	.050	.586	1.000	.182	.114
	FAM_ON FAM_ON=In hoeveer u bekend met online boodschappen doen?	.083	-.018	-.026	.000	.000	-.007	.006	-.077	-.031	-.065	-.121	-.069	-.117	.215	.452	.182	1.000	.594
	FAM_ON_HO FAM_ON_HO W_OFTEN Hoe vaak koopt u een boodschappen online?	.029	-.018	-.079	.000	.000	-.010	-.028	-.068	-.070	.004	-.064	-.057	-.047	.063	.233	.114	.594	1.000

Table 4: Correlations

Appendix 7 – SPSS output: Model Summary and ANOVA

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.541	.292	.254		1.42210	2.122

Table 5: Model Summary

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	462.896	30	15.430	7.630	.000
	Residual	1120.391	554	2.022		
	Total	1583.287	584			

Table 6: ANOVA

Appendix 8 – SPSS output: Coefficients

Variable	Hypothesized effect	B	Std. Error	Sig.
<i>Constant</i>		3.538	.325	.000
No promotion		.295	.145	.043
Monetary promotion	<i>H3b: +</i>	.413	.146	.005

Table 7: Changed Coefficients (non-monetary promotion as reference category)

Appendix 9 – Robustness Checks

Variable	Hypothesized effect	B-coefficient	Std. Error	Sig.
<i>Constant</i>				
Online	<i>H1: +</i>	-.520	.243	.033
Fresh package	<i>H2: +</i>	.937	.237	.000
Monetary promotion	<i>H3: +</i>	.254	.251	.312
Non-monetary promotion	<i>H3: +</i>	-.074	.289	.798
Health consciousness		-.075	.277	.797
Convenience-orientation		.231	.249	.354
Planned versus impulsive		.423	.273	.122
<i>Interaction effects</i>				
Online*healthconsciousness	<i>H4a: +</i>	.050	.246	.840
Freshpackage*healthconsciousness	<i>H4b: -</i>	.339	.245	.166
Monetarypromotion*healthconsciousness	<i>H4c: -</i>	-.236	.296	.426
Nonmonetarypromotion*healthconsciousness	<i>H4c: -</i>	-.363	.295	.220
Online*convenienceorientation	<i>H5a: +</i>	.596	.245	.015
Freshpackage*convenienceorientation	<i>H5b: -</i>	-.568	.239	.018
Monetarypromotion*convenienceorientation	<i>H5c: -</i>	.041	.096	.671
Nonmonetarypromotion*convenienceorientation	<i>H5c: -</i>	-.051	.275	.854
Online*plannedvsimpulsive	<i>H6a: +</i>	-.184	.244	.450
Freshpackage*plannedvsimpulsive	<i>H6b: -</i>	-.395	.241	.102
Monetarypromotion*plannedvsimpulsive	<i>H6c: -</i>	-.050	.293	.864
Nonmonetarypromotion*plannedvsimpulsive	<i>H6c: -</i>	-.005	.292	.987
<i>Control variables</i>				
Male		-.075	.131	.568
Age		-.030	.004	.000
No education		-1.608	.087	.064
Primary education		-.976	.857	.255
Secondary education		-.019	.205	.926

Secondary vocational education	.180	.153	.241
University education	.064	.178	.720
Familiarity meal-kits	.035	.080	.661
Familiarity meal-kits (frequency)	.414	.074	.000
Familiarity online grocery shopping	-.012	.064	.853
Familiarity online grocery shopping (frequency)	.020	.071	.783

Table 8: Coefficients (unstandardized) (median-split procedure)

Variable	Hypothesized effect	B-coefficient	Std. Error	Sig.
<i>Constant</i>		1.265	.110	.000
Online	<i>H1: +</i>	-.086	.042	.039
Fresh package	<i>H2: +</i>	.179	.041	.000
Monetary promotion	<i>H3: +</i>	.032	.050	.521
Non-monetary promotion	<i>H3: +</i>	-.097	.050	.051
Health consciousness		.034	.080	.670
Convenience-orientation		.034	.035	.324
Planned versus impulsive		.122	.075	.105
<i>Interaction effects</i>				
Online*healthconsciousness	<i>H4a: +</i>	-.030	.073	.684
Freshpackage*healthconsciousness	<i>H4b: -</i>	.058	.071	.416
Monetarypromotion*healthconsciousness	<i>H4c: -</i>	-.079	.085	.352
Nonmonetarypromotion*healthconsciousness	<i>H4c: -</i>	-.078	.086	.360
Online*convenienceorientation	<i>H5a: +</i>	.048	.032	.132
Freshpackage*convenienceorientation	<i>H5b: -</i>	-.068	.031	.028
Monetarypromotion*convenienceorientation	<i>H5c: -</i>	-.003	.038	.940
Nonmonetarypromotion*convenienceorientation	<i>H5c: -</i>	-.007	.038	.863
Online*plannedvsimpulsive	<i>H6a: +</i>	-.074	.069	.284
Freshpackage*plannedvsimpulsive	<i>H6b: -</i>	-.054	.069	.430
Monetarypromotion*plannedvsimpulsive	<i>H6c: -</i>	-.019	.083	.820

Nonmonetarypromotion*plannedvsimpulsive	H6c: -	.080	.083	.332
<i>Control variables</i>				
Male		.015	.045	.734
Age		-.011	.001	.000
No education		-.415	.301	.168
Primary education		-.556	.295	.060
Secondary education		.010	.070	.884
Secondary vocational education		.054	.053	.307
University education		.014	.060	.813
Familiarity meal-kits		.009	.027	.734
Familiarity meal-kits (frequency)		.116	.025	.000
Familiarity online grocery shopping		.012	.022	.595
Familiarity online grocery shopping (frequency)		.012	.024	.618

Table 9: Coefficients (unstandardized) (natural logarithm of purchase intention)