



Nudging in the Online Environment

A case study at Yex on the effectivity of online nudging

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– Marinka van der Ark –

ABSTRACT

Nudging has received increased attention in science during the last couple of years. Wageningen University & Consultancy Schuttelaar & Partners distinguished three nudging strategies: environmental signals, social norms and group behavior. As these strategies are mainly tested in physical environments, this thesis contributes to literature by exploring the effects of nudging strategies on willingness to buy in an online setting.

Having defined the principal research question, various steps have been followed. An experiment was set up in which respondents (N=251) were divided into four different treatment groups. All treatment groups filled out the same survey except for one condition, the picture. Three treatment groups got to see a picture in which one specific nudging strategy is applied, whereas one treatment group got to see a neutral picture without a strategy. This experiment was based on a case study at the company Yex.

The results of this study indicate that nudging strategies do not affect willingness to buy in an online environment, since this is determined by aggregating multiple aspects (type of product, personal characteristics, etc.). Also no relationship is found between nudging strategies and expected happiness.

Keywords: *nudging, online, web shop, exotics, food neophobia, consumer susceptibility, willingness to buy.*

*“Design is not just what it looks like and feels like.
Design is how it works.”*

– Steve Jobs

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1. INTRODUCTION

Nudging has received increased attention last couple of years. Richard Thaler and Cas Sunstein introduced the concept “nudge” for the first time in 2008 in their book “Nudge: Improving Decisions about Health, Wealth, and Happiness”. It is defined as “*any aspect of the choice architecture that alters people’s behaviour in a particular way without forbidding any options or significantly changing their economic incentives*” (Thaler & Sunstein, 2010, p. 6). Governments and companies are increasingly using nudges to influence people’s behavior. An example is the way of product offerings in company canteens. Many canteens offer their products in such an order that healthy food is placed in the front, and unhealthy food is placed in the back. By utilizing this method of product placement, companies hope to make it easier for people to choose healthy instead of unhealthy food. The key aspect about a nudge is that it’s non-coercive and there’s always an opt out.

In behavioral science literature, extensive research has been done on the effects of nudges on different factors that make societies healthier, such as food choices and general well-being. Hanks et al. (2012) looked at encouraging healthier eating habits in school lunchrooms through strategic placement of certain foods. One of two lunch lines was arranged in a matter where the focus was on the display of healthier foods. In the healthier line, sales of healthier food increased by 18 percent and grams of less healthy food consumed decreased by 28 percent (Hanks, Just, Smith, & Wansink, 2012). Moreover, neuroscience literature supports this finding about strategic placement. Findings from two eye-tracking studies suggest that brands in the horizontal center receive more visual attention. They are more likely to be chosen. Investigation of the attention process revealed an initial central fixation bias, a tendency to look first at the central option, and a central gaze cascade effect, progressively increasing attention focused on the central option right prior to decision. Only the central gaze cascade effect was related to choice. An offline study with tangible products demonstrated that the centrally located item within a product category is chosen more often, even when it is not placed in the center of the visual field (Selin Atalay, Onur Bodur, & Rasolofoarison, 2012).

The nudging literature distinguishes the following three types of nudges: environmental signals, social norms and group behavior. Firstly, environmental signals are ways or orders in

which products are offered affecting consumers' choices. A collaborated research team of Wageningen University and consultancy Schuttelaar & Partners (2012) showed that placing the product in the middle of the shelf and arranging different varieties next to each other can be effective, whereas the use of slogans is ineffective. The ethical consideration from nudging with environmental signals is important, as this might cause the feeling of guilt about not following the recommended choice, while the essence of nudging is to leave consumers with the freedom of choice. Secondly, social norms are uncovered by observing the behavior of others. They showed that imitation of famous people is not effective, which is notable, because many companies use this as a marketing strategy. Instead, given the results of an experiment they conducted, they advised to give consumers some time to get used to novel products before implementing a specific nudge. Nudging through product bundling in menus, which is also seen as part of social norms, has proven to be effective. It is necessary to pay attention to variation, since offering the same combination for several weeks turns out to lead to relapse. Thirdly, group behavior is when people identify themselves with a group and tend to adopt its behavior. The research team showed that communication of exemplary behavior (norms) affects consumer behavior positively. An example of this is the slogan stated on train stations: "Choose fruit sometimes. Many travellers also do this.". It can be varied with information about what the majority or the minority does together with some observed trends (Wageningen University & Adviesbureau Schuttelaar & Partners, 2012).

Besides the strategies mentioned above, Schlag (2010) reviews the book of Thaler and Sunstein and describes a number of nudging strategies for dealing with cognitive errors, such as the default rule or providence of information. The default rule, which is "the rule that applies unless another option is deliberately chosen" (Schlag, 2010, p. 915), is said to be the mother of all nudges. All nudges described in this paper can be broadly classified into the three categories above, for example the default rule is part of the environment in which a decision is made. Another paper distinguishes between the following libertarian paternalistic means to foster an ethical way of impulsive consumption: strengthening willpower, reducing frequency with which impulsive urges to consume unnecessary goods occur, and using the human tendency of impulsive behavior and trying to guide this impulsive behavior in ethical directions (Lades, 2012). These are based on two different decision making systems by which

human behavior is driven, according to Kahneman (2011). He also states that needs can be cognitive or intuitive in nature and accordingly, consumer behavior can be motivated cognitively (i.e. within System 2) or automatically (i.e. within System 1). However, as these nudging strategies are not empirically tested, they do not form a reliable base for this thesis. Therefore, this research is based on the first-mentioned strategies of Wageningen University & consultancy Schuttelaar & Partners. Unfortunately, no research has been done to find out which is the most effective way of nudging, but it seems to be context-dependent as different nudges are effective in different contexts. Contexts in which Thaler and Sunstein talk about nudging are, for example, speeding on curved roads, retirement plans, mortgages, medical treatment options, food buying and so on.

Interestingly, the effectiveness of the three nudges has only been tested in physical locations, such as in school canteens and supermarkets. A knowledge gap exists with respect to nudging in an online environment. I wish to contribute in overcoming this paucity by exploring the effects of online nudging strategies.

It could be of great interest to contribute to this gap, since it is widely known that e-commerce evolves quickly. Recent findings from Thuiswinkel Markt Monitor 2015 show that the amount of online spending has increased by 14 percent in 2015 compared to 2014, rising up to a total amount of 4.71 billion euros. They also show that the number one growing sector in online spending in the Netherlands is the food sector, with a growth of no less than 54 percent in 2015 (Thuiswinkel & GFK, 2015). Moreover, findings from an academic research institute called EFMI Business School about the growth potential for online revenue share in the years 2020-2025 in the Netherlands show that the Netherlands is lagging ten years behind the British online food retail. The online revenue shares in the United Kingdom in 2004 and 2005 were 0.9 and 1.1 percent respectively, whereas these percentages were only reached in the Netherlands ten years later (Figure 1). Based on this development, the EFMI Business School estimates a growth of the online revenue share in the Netherlands in the coming nine years to reach up to 5 percent, which is the same level the United Kingdom reached in 2015 (EFMI Shopper Monitor, 2015). No additional data for the Netherlands on the period 2004-2013 is available, because measures from that period are not reliable.

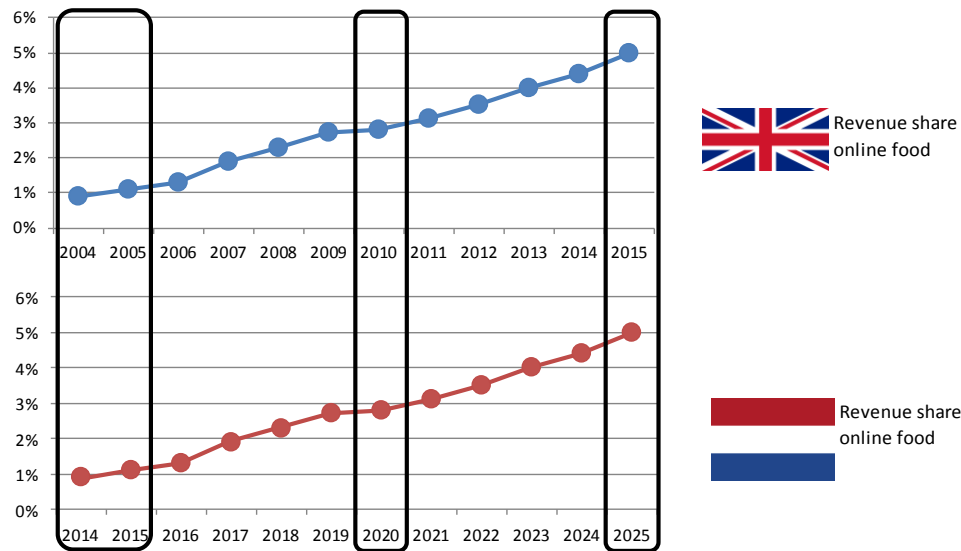


Figure 1. Development of online revenue share in the United Kingdom versus the Netherlands. The Netherlands is ten years behind the United Kingdom, as the figure shows, the level of revenue share in online food in the Netherlands in 2014/2015 is exactly the same as the level of revenue share in online food in the United Kingdom in 2004/2005. Source: EFMI Business School.

When the effects of nudging in an online environment are clear, businesses have the opportunity to take advantage by applying the best nudging strategy on their website or web shop. The online environment offers an unlimited amount of space and in turn, the flexibility to create an optimal experience for customers, henceforth, the product category that is chosen for this research to test nudging strategies should be sensitive to this customer experience. Based on the previous statements, the novel and exclusive category of exotic fruits is chosen. Suppliers of novel and exclusive products can make more use of the possibilities that unlimited space offers, as movies and ideas on usage situations for instance can be shown in an adventurous manner. This is translated into a web shop or website that is more extensively focused on the experience of customers. Another reason why the product category of exotic fruits is chosen, is the fact that it is understudied throughout the world due to their limited regional presence. By conducting research on it in this paper, the scientific knowledge on exotic fruits will be enlarged. One additional advantage of conducting research on exotic fruits is that the unfamiliarity might be decreased and hopefully turned into familiarity as more attention is paid to this product category. When people become more familiar with it, they might include it in their daily consumption, as the

scale of food neophobia claims that only more neophilic consumers are open for novel food and more neophobic consumers are not, so they stick to their familiar food. An additional advantage is the aspect of healthiness. Many studies reveal the potent ability of this product category to improve metabolic derangements and the resultant conditions i.e. diabetes and obesity (Devalaraja, Jain, & Yadav, 2011). This research aims to amplify the level of awareness about exotics and will in turn, aim to increase the chance of people buying the products, therefore leading to more consumption of healthy food. The study is done based on a case study on a company called Yex. This company will be introduced in chapter three.

As e-commerce evolves so quickly and businesses want to keep innovating, it is important to do research in the online environment. To gain more insight into the most effective nudging techniques in an online environment, this study explores the following research question:

What nudging strategy would be best in order to push online consumers to buy (more) exotic fruits? A case study on Yex.

In order to have a better understanding of the online environment, some conceptual clarity is necessary with respect to the definition of online shopping. Online shopping refers to the process of purchasing products or services via the internet. Online shopping offers an infrastructure in which the consumer is able to search, compare, and access information much more easily and at deeper levels than within the bricks-and-mortar retail structure (Alba et al., 1997; Lynch & Ariely, 2000). This concept of information as adding value to the retail experience is supported by Hoffman and Novak (1995), who suggest that the internet offers not only a wide variety of information, it offers the capability to deliver specific information tailored to the needs of the consumer.

The structure of this report is as follows. The second chapter consists of the theoretical framework in which nudging strategies will be explained more thoroughly. It also contains an explanation of the specific product category and the different types of online consumers. The third chapter contains the experimental design, which also contains a case study about the company Yex to provide the reader with a better and deeper understanding of the subject. The fourth chapter describes the results, after which the fifth chapter will conclude. The thesis ends with displaying how final results can be transformed into managerial implications for the company.

2. THEORETICAL FRAMEWORK

This chapter will provide an overview and explanation of the existing literature regarding the aforementioned research question. On the one hand, literature about different nudging strategies is being reviewed, and on the other hand, literature about consumers in an online environment is being reviewed. Also, an introduction to a specific product category is given. After the literature review, hypotheses are set up about the effectiveness of different nudging strategies, given the specific product category and the potential customer.

2.1 Nudging

The concept of nudging emerged out of the concept of ‘Libertarian Paternalism’, which has been coined by Thaler and Sunstein in 2003. Libertarian paternalism is about influencing the choices of affected parties in a way that will make those parties better off. As people clearly do not always equate their preferences with welfare, “better off” should be measured as objectively as possible. Individuals sometimes make inferior choices, which they would change if they had more complete information, unlimited cognitive abilities, and no lack of willpower. As nudging is defined as *“any aspect of the choice architecture that alters people’s behaviour in a particular way without forbidding any options or significantly changing their economic incentives”* (Thaler & Sunstein, 2010, p. 6), the libertarian part of nudge can be found in the sense of insistence on freedom, whereas the paternalistic part is the nudge itself. Nudging is actually an unconscious psychological stimulus to affect people’s behavior on a crucial moment of decision-making.

A research consortium led by the Department of Marketing and Consumer Behaviour at Wageningen University and consulting Schuttelaar & Partners, distinguishes three nudging strategies: (1) environmental signals, (2) social norms, and (3) group behavior, which are extensively explained later in this chapter.

Another paper distinguishes between the following libertarian paternalistic means to foster an ethical way of impulsive consumption: strengthening willpower, reducing impulses and guiding impulsive behavior in ethical directions (Lades, 2012). In contrast to the previous classification that focuses on using the weaknesses of rationality within human behavior to affect people’s choices, this one focuses on influencing consumer behavior itself. The strategies of Lades are based on two different decision making systems by which human

behavior is driven, according to Kahneman (2011). Consumer behavior can be motivated cognitively (i.e. within System 2) or automatically (i.e. within System 1). The first strategy means that the position of willpower is strengthened in the struggle between willpower (cognitive motivation) and impulses (automatic motivation). The second strategy means that the frequency with which impulsive urges to consume unnecessary goods occur are reduced. Consumption that is redundant, offers no increases in well-being and harms the environment, can be considered as unethical and can be restrained by using willpower. As this might be hard sometimes, external control devices are often used to help System 2 controlling this unethical behavior. The third strategy does not try to reduce impulsive behavior, on the contrary, it does the opposite; it uses the human tendency to behave impulsively and tries to guide impulsive behavior in ethical directions. To guide impulsive behavior, of buying new clothes for example, in ethical directions, one can nudge himself by thinking about some past vices before going shopping. Such thoughts may increase the likelihood of impulsively buying a slightly more expensive, but ethical product (Lades, 2012). However, this approach does not form a good base for this thesis for two reasons. First, we do not know the behavior of every online consumer, so it is hard to actually influence it by the three strategies of Lades. Second, the approach is not empirically tested, so it might not be reliable.

Moreover, Schlag (2010) shows in his book review of “Nudge” a number of basic strategies for dealing with cognitive errors. Besides the default rule, bypassing and enlisting of cognitive errors is a strategy as well. An example given in the book is about an employment savings plan, in which people say they want to save, but then fail to actually do it. They are subject to a loss-aversion error: they don’t want to see their pay checks reduced. The “save more tomorrow” program of Thaler and Sunstein enlists people to commit themselves to a series of savings contributions timed with pay raises in the future. People don’t see their pay checks go down in this way, and thus the loss-aversion error is bypassed. This way of nudging can be classified in the strategy “social norms” as this program helps people to make the appropriate choice by showing that employees who do not participate in the program save less than the predicted life cycle savings rate. Thus, people want to join as they want to keep up with the norm. More strategies are explained within this article, such as counteracting the impetus for cognitive errors, priming people to make the appropriate

choices and providing information that could be useful in making choices. These strategies are often proven to be effective, but they also fail occasionally. In the laboratory, researchers can set all environmental factors to their own liking, whereas this is not possible in the real world. Since this article makes a classification between many nudging strategies, it is not feasible to test these within the given time frame of roughly six months for this thesis.

Furthermore, a summarizing article by PhD student Mark Egan (2013) from the University of Stirling called “The Nudge Database” contains a list of 101 empirical nudges and interesting behavioral change interventions, primarily drawn from Behavioral Economics literature. The article discusses topics from nudges about health and well-being, tax compliance, charitable giving and even law abiding behavior. All examples given in this article can be roughly divided into the three different nudging strategies from the aforementioned research consortium of Wageningen University and Schuttelaar & Partners. Some of the examples are mentioned to illustrate the different strategies. Appendix 1 shows an overview of the nudging literature that is being reviewed. An extensive explanation of the three nudging strategies that are tested within this study shall follow.

2.1.1 Strategy 1: Environmental signals

Nudging through environmental signals is accomplished through different methods or orders in which products are offered that affect consumers’ choices. This can also be called framing. Placement of the product in the middle of the shelf is one option, a second option would be placing different varieties of the product on the shelf next to each other and the third option being the use of slogans. All three of these have been tested by the research consortium, but there are probably more ways of nudging that can be classified within the strategy of environmental signals. For example, literature shows that colour can have a great impact on a customer’s product perception; the colour of the product itself as well as the colour of the packaging.

An example of a nudge being tested within the subcategory of using slogans is described in a paper by McNeil et al. (1982), in which he looked at framing effects in healthcare. When patients are told that 90% of those who have a certain operation are alive after five years, they are more likely to have the operation than when they are told that after five years, 10% of the patients is dead. It is actually the same statement, but the way people interpret

information differs depending on the way it is framed (McNeil, Pauker, Sox, & Tversky, 1982).

2.1.2 Strategy 2: Social norms

People are strongly influenced by what other people do and are strongly susceptible to the opinions of others about their actions, especially the people who are closest to them and whom they trust their opinions the most (Yun & Silk, 2011). By informing individuals how most people act in a variety of situations, people tend to follow their example. This can be done by using a public messenger carrying out the social norm. For example, field-experts or famous persons could influence people's behavior, because people have more trust in the opinion of experts and want to imitate famous people. Another way of communicating the social norm is by including specific products within standard menus. Consumers choose the standard menu because they do not have time to look at other options, or simply do not want to indulge in the alternatives. The standard menu is then perceived as the reference point.

An example of a nudge being tested within the category of social norms is described in a paper by Slaunwhite et al. (2009), in which the efficacy of normative messages to encourage people to take the stairs is examined. The results suggest that posters with normative information were more effective than generic-information posters (Slaunwhite, Smith, Fleming, & Fabrigar, 2009). So, by communicating the norm about taking the stairs instead of the escalator, people tend to take the stairs more often. Also, a large-scale educational campaign in Montana was adopted in order to decrease the number of people smoking and drinking. The campaign consisted of different advertisements, of which one tried to correct the misperceived norms on universities by communicating the claim, "Most (81 percent) of Montana college students have four or fewer alcoholic drinks each week." Significant improvements were produced by implementation of this strategy (Thaler & Sunstein, 2010).

2.1.3 Strategy 3: Group behavior

Nudging through group behavior is done by informing people by descriptions of what other people with the same purpose or characteristics do. People often identify themselves with a group and tend to adopt its behavior. Communication of information about the majority or minority in combination with observed trends is proven to be effective. Also, the use of

testimonials creates a self-generated group of equal people with which they identify and relate themselves to. The line between strategy two and three is not straight, as the 'group' with which people identify themselves to is often considered as the social norm for them.

An example of a nudge that is tested within the category of group behavior is described in an annual report by the Behavioural Insights Team of the United Kingdom (2010-2011). They used social normative messages in letters to groups in tax arrears in order to encourage increased tax compliance. They had several conditions. The control group received standard tax letters reminding the recipients to pay the amount they owed in arrears. The treatment groups received the same letters but with an added social normative message in the form "9 out of 10 people in your ___ pay their tax on time" (Figure 2). The results indicated that all these treatments were effective at encouraging compliance. This experiment shows that people are prone to messages about group behavior, but are more sensitive to messages when it becomes more personal. The difference in compliance rates between the control and the most effective treatment group was 15 percentage points.

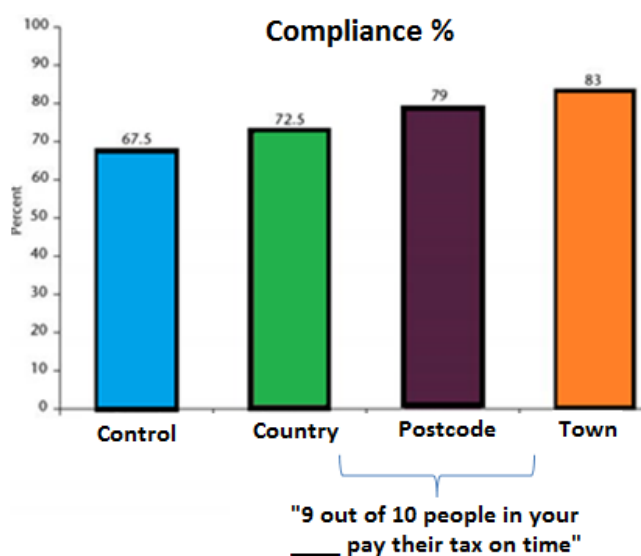


Figure 2. Results of a nudge tested by the Behavioural Insights Team from the UK. By sending letters with the text "9 out of 10 people in your country pay their tax on time", 72.5 percent of the people who received this letter were more inclined towards compliance. When mentioning the town, more people paid their arrears.

Another example that falls within the strategy of group behavior is that websites often give suggestions of other products at the moment of check-out. It shows the message that other customers who purchased this product, also purchased several other products. People may

think that those customers probably have the same taste in clothes as they have, so they belong to the same group, and people start looking at the suggestions that are given.

As already mentioned in the introduction, previous literature does not contain any research about the most effective strategy. However, there is literature that describes why nudging may not work (Room, 2013; Shafir & Mullainathan, 2014). First of all, the government sees itself as the only 'saver' of citizens, but there are more influential factors, such as friends, employers, media, charities or the church. Secondly, the concept of nudging assumes the same preferences for all individuals at a certain moment in time, which is not true since preferences can be context-dependent as well. Preferences are determined by interaction in the environment, and this interaction is not a constant. Shafir and Mullainathan (2014) provide evidence for the fact that human behavior fluctuates with scarcity, such as stress, loneliness and lack of money and time. Scarcity influences long-term thoughts, which cannot be solved by a 'gentle push in the right direction'.

Nudging strategies in an online setting

The interpretation of the different nudging strategies with respect to the online environment need to be fully clear, before the best-fitting strategy can be designated. Offline environmental signals may not be the same as online environmental signals, as the different ways or orders in which products are offered in a physical market may not work on a website. The lay-out can be very impactful in the online environment, such as the functionality of the site or its user friendly experience. The user friendly experience consists of many different factors, such as colour, pictures, movies, music, stories from suppliers and buyers, promotions and tips and tricks. Since there is no limitation in space on a website or a web shop, contrarily to the limited space in supermarkets, companies can affect online customers in many different ways. Numerous evidence is found within the food industry with respect to pictures as part of the experience. The evidence shows that the visual packaging has a direct effect on the quality perception and brand preference, as Wang stated that "visual packaging may lead to a positive product or brand review among consumers" (Wang, 2013, p. 811).

Communication of social norms is actually the same as in the offline environment. The strategy in the online context means that people are affected by exemplary behavior as a

social norm. For instance, when web shops offer certain product combinations and amplify them with messages as “Best choice” or “Most people choose this option”, consumers will be unconsciously affected by it and possibly choose this option instead of looking further. In addition to this, companies can place a picture of a famous person on the web shop and state that this person also chooses this option.

The third strategy of group behavior is also the same in the online environment as in the offline environment. Information about choices of other consumers affects consumers as people identify themselves with a group in general and unconsciously adopt the behavior of their peers. This strategy has been applied by the SPAR supermarket on the Erasmus University campus lately. To be more concrete, the supermarket placed a special announcement on healthy products. The announcement was as follows: “Smart students buy this!”. Results were not yet analysed, but one may expect that students want to be part of the group that is considered as ‘smart students’, so that more students are going to buy these healthy products. It is also possible to place messages like this in a web shop as a way to test the effectiveness of the group behavior strategy in the online environment.

2.2 Online consumers

Besides understanding the different nudging strategies that exist and knowing how this would look in an online environment, it is imperative to have an excellent understanding of online shoppers. Based on the research model of consumers’ online shopping attitudes and behavior of Li and Zhang (2002), and on different typologies of online shoppers developed by Rohm & Swaminathan (2004), this chapter works towards a potential online consumer profile. The research model consists of five factors that influence the attitude towards online shopping, the buying process of online consumers and finally the underlying motivations for doing this actual online purchase, whereas the different typologies consist of four categories that are explained afterwards.

2.2.1 Motivations for online shopping

A research model developed by Li and Zhang (2002) about consumers’ online shopping attitudes and behavior provides a clear overview of the process from ‘attitude towards online shopping’ to the final online purchase decision (Figure 3). Five antecedents explain the attitude of consumers towards online shopping, which are demographics, personal

characteristics, vendor, service and product characteristics, website quality and the external environment.

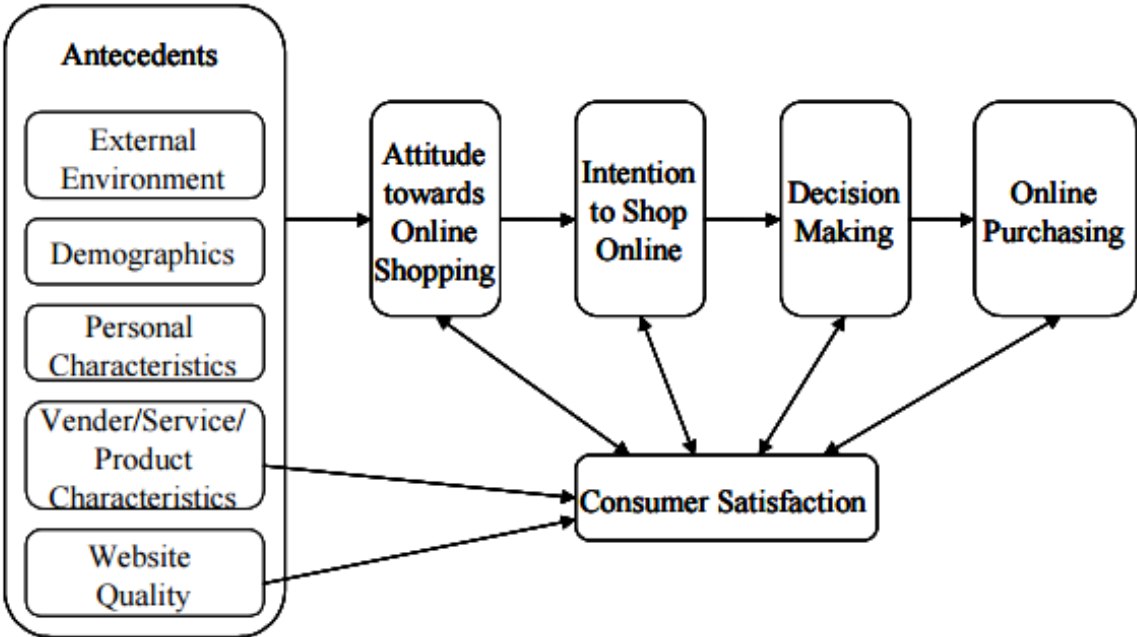


Figure 3. Research model of consumers’ online shopping attitudes and behavior.

Demographics include variables such as age, gender, level of education and income. Previous literature provides evidence that online shoppers are relatively younger, wealthier, better educated, have higher computer literacy and are less fearful about financial loss resulting from online transactions (Swinyard & Smith, 2003). It is also shown through a paper by Rodgers and Harris (2003) that men have a more positive attitude towards online shopping than women, which is predicted by three concepts – emotion, trust and convenience. However, some researchers still argue that demographics appear to play an important role in determining whether people use the internet, however once people are online, demographics do not seem to be key factors affecting attitudes towards online shopping or final purchase decisions (Bellman, Lohse, & Johnson, 1999; Bhatnagar, Misra, & Rao, 2000).

Personal characteristics refer to a group of specific customer features that may influence their online shopping attitudes and behavior, such as their internet knowledge, need specificity, and cultural environment. A study about lifestyle characteristics of online households found evidence for the claim that online shoppers spend more time on the internet in general and find online shopping to be easier compared to online non-shoppers

(Swinyard & Smith, 2003). So, internet knowledge positively influences the attitude towards online shopping. Srinivasan, Anderson and Ponnnavolu (2002) found evidence that customer loyalty increases when online shops match their supply with the customer needs, which is also defined as a personal characteristic in the research model of Li and Zhang. An example of a customer need is clear information about the product. When online shops make clear information available, before and after purchase of the good or service, it is shown that customers feel invited to return to the online shop. This also shows a positive relationship between fulfilment of customer needs and the attitude towards online shopping. Furthermore, findings from Choia and Geistfeld (2004) indicate that while the overall behavioral mechanism underlying choice is similar for their tested countries (USA and Korea), there are differences in the relative importance of the factors determining consumers' intention to adopt e-commerce. Since the Dutch culture is more likely to share the American mind set than Korean mind set, Dutch people are likely to adopt e-commerce easily and have a positive attitude towards online shopping. Aside from the personal characteristics mentioned in this model, more factors are important, such as the consumer's risk perception. People can be risk-averse, risk-neutral or risk-seeking, which can determine the willingness to participate in e-commerce. However, this is not taken into account as it is not part of the research model of Li and Zhang. In order to summarize this part of the model, people with more internet knowledge, who find it highly important to be satisfied by the vendor and who are open-minded regarding culture have more positive attitudes towards online shopping.

Vendor, service and product characteristics refer to features of internet stores, the products they sell, and the service they provide to support the transactions. This is elaborated below. Different measures are employed to value vendor characteristics, but only some of them are relevant to this research, such as store reputation, store size, reliability, number of internet store 'entrances' and use of testimonials. In addition, different aspects of service provided by the vendors through the online shopping process are examined in the study of Li and Zhang (2002). Service factors related to online shopping attitudes and behavior include customer communication channels, response to customer needs, accessibility of sales people, reliability of the purchasing process, timeliness of orders, availability of personalized services, ease of return and refunds, delivery (speed, tracking and tracing), transaction costs,

and promotion. And lastly, among product features that impact customers' online shopping behavior are variety of goods, product quality, product availability, price, dependability of product and brand.

Website quality is measured from different perspectives in various academic resources. Zhang and von Drann (2000) evaluate websites from user satisfaction and dissatisfaction perspectives. Their studies show that features on websites can be seen as hygiene and motivator factors that contribute to user satisfaction and dissatisfaction. Hygiene factors make a website functional and serviceable by contributing to user satisfaction, or the opposite in their absence. Some hygiene factors are: privacy and security, technical aspect, navigation, impartiality, and information content. They are also important towards reducing the perceived risk of online shopping. Motivator factors add value to the website by contributing to user satisfaction. Some motivator factors are: enjoyment, cognitive outcome, user empowerment, credibility, visual appearance, and organization of information content. The aforementioned studies discovered that hygiene factors are the most important website quality factors ranked by e-commerce consumers.

The external environment includes three dimensions. The first is the existing framework that protects the consumers from any kind of loss in online transactions. The second is the system of the Third Party Recognition, in which certificates ensure the trustworthiness of online vendors. These two factors are positively associated with consumers' trust attitude to the online stores. The third factor is the number of competitors, which can be defined as *"the number of internet stores that provide the same service and products"* (Lee, Kim, & Moon, 2000, p. 307). Lee and his colleagues argue that the fewer the competing vendors, the greater the possibility of opportunistic behavior on the part of existing vendors so as to maximize profits. This increases transaction costs for the consumer, therefore decreasing the intention to revisit a specific online store.

All factors described above play an important role in the attitude of consumers towards online shopping. Vendors should take these five antecedents into account when applying a nudging strategy in their web shop, such that it is as inviting as possible to all customer characteristics of the potential customer profile. As Figure 3 shows, the attitude affects the intention to shop online, which in turn affects the process of decision-making and the final

online purchase. When it becomes clear how potential customers can be nudged best, the attitude becomes more positive and an increasing number of website visitors will make an actual purchase-decision.

2.2.2 Shopping types

An analysis of online shopping motives done by Rohm & Swaminathan (2004), including online convenience, physical store orientation (e.g. immediate possession and social contact), information use in planning and shopping, and variety seeking in the online shopping context, suggests the existence of four shopping types: convenience shoppers, variety seekers, balanced buyers and store-oriented shoppers (Figure 4). Convenience shoppers select the store upon time and effort savings and care less about store orientation. They are less motivated by the prospect of immediate possession of goods or services purchased and social interaction. Variety seekers are linked to the presence of an ideal level of stimulation, which is determined by an intrapersonal motive for novelty, complexity or change. The consumer's ideal level determines his or her degree of exploratory and variety-seeking behavior in situations such as shopping. Balanced buyers are also motivated by the desire to seek variety and they like physical store orientation. They make informed choices in general, because they need more certainty than variety seekers. Store-oriented shoppers give the highest rate to physical store orientation, which embraces the desire for immediate possession of goods and social interaction. They do not plan purchases beforehand, but instead they take time to see and feel the products.

Variety-seekers has a good fit with the concept of neophobia. Pliner and Hobden (1992) developed a scale to measure the trait of food neophobia in humans, which is defined as a reluctance to eat and/or avoidance of novel foods. Neophilic people love trying novel food, whereas neophobic people have a fear of trying novel food. Since variety seekers are stimulated by intrapersonal motives as novelty, complexity or change, it can be derived that the stronger an individual's motive of novelty is, the more neophilic this variety-seeker is.



Figure 4. Four categories of shoppers based on online shopping motives. The categories in green are the potential customers within this study.

2.3 Product category and hypotheses

Nudging in the online environment for novel and exclusive products such as exotic fruits and vegetables might work differently than it does for regular products, because it is not well-known yet. As exotic fruits and vegetables are the chosen product category for this research, one must first encompass the meaning of the word exotic. According to the online dictionary (Dictionary, 2016), the word exotic is defined as:

of foreign origin or character; not native; introduced from abroad, but not fully naturalized or acclimatized: exotic foods; exotic plants

Exotic fruits and vegetables are products from foreign countries and come in different shapes and sizes. A number of them are given in Figure 5. Yet, a banana, kiwi or pineapple is not considered an exotic in the Netherlands, even though they do indeed originate from a foreign country. This indicates that an exotic is considered a normal fruit or vegetable when people get accustomed to it. They consider these fruits and vegetables to be normal and routinely buy it for their daily fruit intake. It is hard to determine the turning point, before an exotic is considered a “normal” fruit or vegetable for the people living in a country. In Scandinavian supermarkets, the assortment of exotics already consists of about fifteen

different types, while this is in the Netherlands only about eight. This leads to different perceptions between countries for what is considered as normal.



Figure 5. An overview of some exotic fruits and vegetables. From left to right: sweet potato, asparagus, pomelo, nashi pear, passion fruit, physalis, pitahaya, figs, papaya, pomegranate, ginger, mango NDM, butter squash, avocado and lime.

In the Netherlands, the category of exotic fruits is perceived as novel and exclusive and especially for the online market can be said there is no big player yet. Supermarkets have just started offering exotics, but customers can only choose from a small assortment at the moment. Therefore, it might be a big opportunity to open a web shop for exotics in the Netherlands. From previous research, reasons to buy and reasons not to buy exotic fruits became clear, and these should be taken into account when searching for the best nudging strategy.

The main reasons to buy exotics are linked to taste, variety and curiosity. Many customers say that the combination of taste and variety give them the feeling as if they were on holiday. Other customers say they are curious about the taste of unknown products. These customers fit into the sketch of the neophilic variety-seeker. While purchasing fruits and vegetables, people look at the freshness of the product, that is, the quality should at least be of a certain standard. After freshness, people gave the highest rank of importance to price, ripeness, decay or fungus and colour. Thresholds through which customers are limited to

buy exotic fruits and vegetables are availability, product knowledge and price (Liu, 2015). A web shop, however, may eliminate these thresholds as product availability and knowledge can be increased and different price options can be offered.

To find the best strategy to make people buy exotics online, the potential customer profile should be drawn up first. Since this category is quite exclusive, we expect that the potential target market will consist of consumers with the same kind of profile as the average customer of the Dutch supermarket chain Albert Heijn. In the Netherlands, Albert Heijn is perceived to be on the higher bound of the quality spectrum and its stores are located in somewhat more luxurious neighbourhoods of the Netherlands. In contrast to low-budget supermarkets as Aldi or Lidl, Albert Heijn tries to optimize the customer experience by offering high-quality services and a good-looking store environment. Based on the different shopping types, two types seem to fit best with the potential online customers of exotics: convenience shoppers that do most of their purchases online and variety seekers that love to try novel foods. Convenience shoppers care mainly about time and effort savings and less about the in-store experience. This group already participates in e-commerce, so barriers as delivery time, no social interaction and no opportunity to feel or see the product are less of a problem. However, they do prefer clear and complete information to make a well-informed decision regarding their purchase. Providing different information sometimes to make these shoppers more curious about exotics can lead them into an actual purchase decision, as this group reads information attentively. Variety seekers care about, as the name says, great variety in the assortment. Variety seekers who are more neophilic are more willing to explore novel food in general, so it is interesting to see if these people would also purchase novel and exclusive products as exotics in a web shop. Also, neophilic people are known for the characteristic of being early adopters, so nudging with a specific message that gives them the feeling they are running behind might push them into a purchase decision.

A company can respond to these types of shoppers by creating, for example, an adventurous layout that invites customers to explore a new exotic world as well as creating a safe and reliable layout that makes customers feel comfortable to buy products online, just as Albert Heijn does in its physical supermarkets. However, since we do not know which strategy will work best in order to persuade potential customers to an actual purchase decision, they all

need to be tested in a certain way. As the overarching strategies are too broad to test, some specific elements will be chosen. These are further explained in the next chapter. In order to find an answer to the research question, we test if one strategy is better than the other. The following hypothesis is tested:

H1	<i>Nudging by one of the strategies affects the willingness to buy of potential customers of exotic fruits in an online environment more than nudging by the remaining strategies.</i>
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As already mentioned, four of the five antecedents of the model of Li and Zhang can be nudged, whereas one is fixed. The demographics of consumers, such as age or gender, are fixed and nudging cannot change this. Findings from Bellman et al. (1999) and Bhatnagar et al. (2000) show that demographics play a role in determining whether people use the internet, but once they are online, demographics do not seem to be key factors affecting attitudes towards online shopping or final purchase decisions. The remaining four antecedents, which are personal characteristics, vendor, service and product characteristics, website quality and the external environment, however, may affect attitudes and final purchase decisions, because these are flexible and can thus be used in different ways to nudge consumers towards a final purchase decision of exotic fruits in a web shop.

So, as the aforementioned theoretical models show that many different characteristics may affect attitudes and final purchase decisions, nudges might work better for some consumers than for other consumers. For this reason, it is interesting to do a heterogeneity analysis. Paragraph 4.3 looks at different factors, such as the trait of food neophobia, consumer susceptibility and demographic factors. Therefore, the following hypotheses are tested:

H2	<i>Neophilic consumers are more affected by the examined nudges than neophobic consumers.</i>
H3	<i>Highly susceptible consumers are more affected by the examined nudges than less susceptible consumers.</i>

3. EXPERIMENTAL DESIGN

In order to test my hypotheses, I will conduct an experiment. The experiment is based on a case study at the company Yex. Hence, an introduction to the company will be given first.

3.1 Introduction to Yex and its brand Discovered

Yex, located in the Netherlands, is a company specialized in the import and export of exotic fruits and vegetables. The company is part of a larger group called Best Fresh Group. The Best Fresh Group (Figure 6) grows, packs and distributes various and numerous kinds of fruits and vegetables to different businesses. The Best Fresh Group consist of smaller companies, which all have their own unique products to sell, such as Yex does for exotics. An overview of all the subsidiaries and specializations is provided in Figure 7.



Figure 6. Logos of Best Fresh Group, Yex and Discovered.










Brand	Focus on product
	Biological fruits and vegetables
	Exclusive fruits and vegetables
	Regular fruits and vegetables
	Soft fruits
	Exotic fine vegetables
	Fruits and vegetables for food services
	Greenhouse vegetables
	Outdoor vegetables
	Exotic fruits and vegetables

Figure 7. Partners of Yex within Best Fresh Group.

Martijn de Graaf founded Yex in January 2013 and the company has grown ever since. The company started with only 4 employees and now consists of 24 employees (Yexperts, as they call it). This growth is also reflected in the annual turnover, which has grown with 10 percent in 2014, and with 42 percent in 2015 up to a total amount of 33.2 million euros. Yex imports exotic fruits and vegetables from 57 different countries all over the world. Most of these exotics (87%) comes directly from the producer and are being imported to the Netherlands. These growers mostly reside in continents such as South America and Asia. Figure 8 gives an overview of the countries which Yex mainly imports from. From here, products are exported to countries within Europe. The most important export countries are Germany, Sweden, Denmark and Finland. Of course, Yex also sells exotics within the Netherlands.

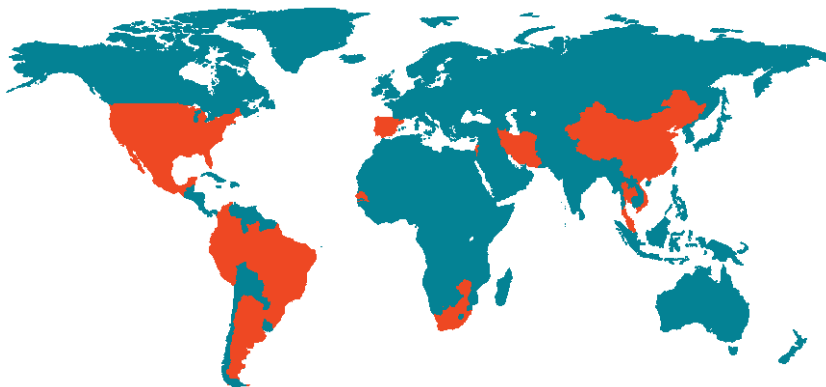


Figure 8. Import countries of Yex/Discovered indicated in red.

Yex mainly focuses on business-to-business trade; they sell to instances such as wholesalers, retail stores and foodservices. In 2015, 51 percent of their turnover came from wholesalers, 43 percent from retailers and 6 percent from other segments. By increasing the availability of exotic fruits and vegetables in the Netherlands Yex mainly wants to increase its brand awareness, but the percentage of turnover from other segments can be enlarged at the same time. Since introduction of the brand “Discovered” in the European market, Yex shifted its focus to end consumers. An online sales channel will help Yex increasing the availability to provide every end consumer in The Netherlands with a high-quality range of products. Discovered is a brand name for exotic fruits and vegetables for the average customer and belongs to the Best Fresh Group. Discovered has a clear brand personality for the customers to resonate with. Essentially, it has different kinds of brand elements, such as the name, the logo, the character, the design and the packaging, which are used for establishing brand equity (Figure 9). The core values of the brand can be described by the brand mantra, which

is a set of 2-5 words (Keller, Brand mantras; rationale, criteria and examples., 1999). The brand mantra for Discovered is as follows: Passionate, Sharing, Enjoyment. The extensions of the brand mantra are shown in a word cloud in Figure 10. The brand mantra is mainly used by the company and not necessarily directly communicated to the customers. It forms the pillars on which the company operates. All the employees must believe in these values and not deviate from it. Only then a coherent brand can be realized which customers will believe in.



Figure 9. Brand elements of Discovered.



Figure 10. Word cloud of the extensions of the brand mantra.

3.2 Survey set-up

In order to test the hypothesis, a distinction between four different treatment groups is made. All groups get the same survey, but a different treatment. The survey starts with a general introduction about the research. Then, a total of sixteen questions are asked about online shopping in general, about the scale of food neophobia, and about consumer susceptibility to interpersonal influence. A description of the brand is given after this first set of questions, which is followed by a picture of the Discovered web shop shown for a time period of thirty seconds. The software is able to randomize the participants into treatments.

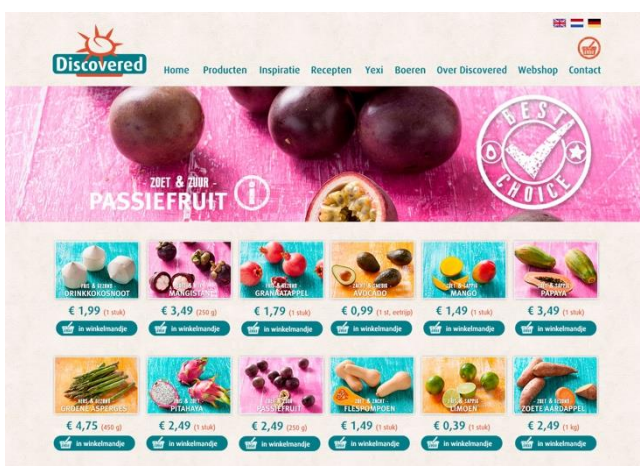
For the first treatment group, the strategy of environmental factors will be tested by means of creating the optimal customer experience in the sense of adding a banner on the website that shows a buyer from Yex together with a farmer of Yex and a coloured heading 'BOEREN', which shows there is more information available about the farmers. See below what the banner for looks like.

Treatment 1



For the second treatment group, information about social norms will be visible in order to see if this affects the willingness to buy exotic fruits and vegetables online. This information will be shown in the form of a stamp. See below what the banner looks like.

Treatment 2



For the third treatment group, information about a special group will be given. A company can use this in order to make consumers identify themselves with the group and feel triggered to buy products as well. In this research, the following slogan will be tested: "Verfrissende PITAHAYA SHAKE – Voor sportieve mensen!". People might identify themselves

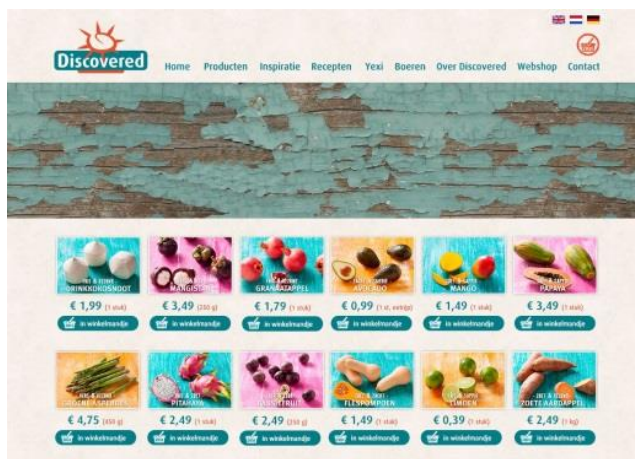
with this sporty group and feel excited about exotic fruits. See below what the banner looks like.

Treatment 3



For the fourth treatment group, no nudging strategy is tested in order to create a reference point. In contrast to the other treatment groups, the picture of treatment four will include a neutral banner. Neutral means that no pictures or texts are shown, only a solid colour or certain pattern. See below what the banner looks like.¹

Treatment 4



After the picture is shown, participants have to answer ten questions. The subjects of the questions are willingness to buy exotic fruits and vegetables, attraction to the web shop, and demographics. To make the survey less boring, the demographic questions are randomly

¹ A fifth treatment group is included in the experiment, in which the effect of enjoyment on willingness to buy is tested. However, this treatment and the resulting outcomes are excluded from this research. The picture for treatment 5 is provided in the survey in Appendix 2.

placed among the other questions. Some of the questions are based on a 7-point Likert scale and other questions are multiple choice. To reduce the question nonresponse, I ensured that respondents could not go on to the next question if they did not reply to the previous question. A more detailed overview of the survey is provided in Appendix 2.

3.2.1 Participants

Two hundred and fifty-one (N=251) consumers participated in the experiment. They are incentivized with the chance of winning a Discovered exotics gift box. Participants are randomly and equally assigned to one of the four treatments. This randomization is important to avoid selection bias. Also, in order to control for order effects, it is important that the answers, on questions with many categories, are randomized as well. By doing this, it is certain that people will not prefer a specific answer due to the order in which the answers are presented. Furthermore, to avoid confounding factors, I will make sure the four groups are subject to the same circumstances. There was no purposive selection between gender, age, occupation etc. Since everyone could fill in the survey, a normally distributed sample size was realized in this way. Some people might like exotics, while others might not have tried it. It is imperative to study and examine both sides of the spectrum and get numerous and varied responses. A sample size of two hundred and forty is chosen for this research because too few observations will cause a low power of the test, whereas too many observations might result in rejection of the null-hypothesis, because the rejection region becomes larger. However, it is not only about statistical significance as it is also important to look at the size of the regression coefficients when interpreting the results.

To make sure that the participants do not affect each other's choices, the participants have to fill out the online survey on their own. The survey takes about fifteen minutes to finish. As previously explained, most questions had possible answers where participants could just click the ones applicable to them. This method was chosen, because participants do not want to fill in a time-consuming survey. This way, the threshold to participate is very low. The survey is set up in Dutch, as most respondents are Dutch and some of them might not understand the survey if it had been set up in English. The survey has been developed using 'Qualtrics' software.

3.2.2 Explanation of the scales used

The three scales that are used within my survey are scientifically approved and consist of the following: one that measures the trait of food neophobia (FNS), another one that measures consumer susceptibility to interpersonal influence and another one that measures willingness to buy.

Food Neophobia Scale

The Food Neophobia Scale (FNS) has been developed by Pliner and Hobden (1992). The scale consists of ten items, in which participants are asked to fill out to which extent they felt the statement was describing them. A 7-point Likert scale was used, which was first tested on its reliability. The following items are included:

- I am constantly sampling new and different foods (+)
- I don't trust new food (-)
- If I don't know what is in a food, I won't try it (-)
- I like foods from different countries (+)
- Ethnic food looks too weird to eat (-)
- At dinner parties, I will try new food (+)
- I am afraid to eat things I have never had before (-)
- I am very particular about the foods I will eat (-)
- I will eat almost anything (+)
- I like to try new, ethnic restaurants (+)

Items are encoded as follows:

	Negative items (-)		Positive items (+)	
Disagree	Neophilic	7	Neophobic	1
Agree	Neophobic	1	Neophilic	7

Table 1. Coding of items.

When respondents have filled out all items, the mean of these ten items is calculated for every person separately, which is between 1 and 7. Positive items are coded as follows: "Totally Disagree" is 1 and "Totally Agree" is 7, whereas negative items are coded as follows: "Totally Disagree" is 7 and "Totally Agree" is 1. Therefore, a low score means that a person is neophobic, while a high score means that a person is neophilic.

Scale of Consumer Susceptibility to Interpersonal Influence

The Scale of Consumer Susceptibility to Interpersonal Influence has been developed by Bearden, Netemeyer and Teel (1989). The scale consists of twelve items, in which participants are asked to fill out to what extent they felt the statement was describing them. A 7-point Likert scale was used. This scale was first tested on its reliability as well. The following items are included:

- I often consult other people to help choose the best alternative available from a product class
- If I want to be like someone, I often try to buy the same brands that they buy
- It is important that others like the products and brands I buy
- To make sure I buy the right product or brand, I often observe what others are buying and using
- I rarely purchase the latest fashion styles until I am sure my friends approve of them
- I often identify with other people by purchasing the same products and brands they purchase
- If I have little experience with a product, I often ask my friends about the product
- When buying products, I generally purchase those brands that I think others will approve of
- I like to know what brands and products make good impressions on others
- I frequently gather information from friends or family about a product before I buy
- If other people can see me using a product, I often purchase the brand they expect me to buy
- I achieve a sense of belonging by purchasing the same products and brands that others purchase

When respondents have filled out all items, the mean of these twelve items is calculated for every person separately, which is between 1 and 7. Since the coding is as follows: “Totally Disagree” is 1 and “Totally Agree” is 7, a higher score means that a person is highly impressionable.

Scale of Willingness to Buy

The scale that measures Willingness to Buy has been developed by Baker, Level & Grewal (1992, p. 453). The scale consists of three items, in which participants are asked to fill out to

what extent they felt the statement was describing them. A 7-point Likert scale was used, which was also tested on its reliability first. The following items are included:

- It is very likely that I would buy products on this web shop
- I am willing to buy gifts on this web shop
- I am willing to recommend this web shop to others

When respondents have filled out all items, the mean of these three items is calculated for every person separately, which is between 1 and 7. This is the most important scale of the survey, since the effectiveness of the nudging strategies is measured based on the willingness to buy. Since the coding is as follows: “Totally Disagree” is 1 and “Totally Agree” is 7, where a higher score means that a person is more willing to buy exotic fruits and vegetables in the Discovered web shop.

3.3 Pilot study

Before the survey was distributed online, a pilot study was done to see if the survey was set up in the right way. Nine individuals filled out the survey and they were specifically asked to write down points of improvement, focused on either the structure of the survey or the questions themselves. Points of improvement were:

- Each question must have a purpose

Based on this pilot study, useless questions are removed. Questions are considered as useless when they do not contribute to the research question.

- Remove open questions

It is difficult to do analysis on open questions, since many different responses can be given. Therefore, to make the process of analysis easier, open questions are replaced by closed questions.

- Change the type of question in order to obtain more useful results

The type of questions has been changed for some questions, as the resulting outcomes were not optimal. For example, one question about the importance of specific factors on a web shop asks respondents to rank the factors from most important to least important. However, there was no option to find different factors equally important. Therefore, the question replaced by a scale question in which respondents should indicate how important they find the items.

- Add ‘back’ button

People sometimes find out they misinterpreted a previous question. When there is an option to go back to previous questions, they can adjust their answers and thus, better results can be obtained.

- Make the questions as clear and as short as possible.

Long questions might not be clear to all respondents and therefore harder to answer. This leads to possible ambiguities when interpreting the results. Due to clear and short questions, the most possible ambiguities can be eliminated.

After making these adjustments, the survey was shown to these nine individuals again. When all of them confirmed the clarity of the survey, it was ready for distribution.

3.4 Study

In order to gather more than one hundred respondents, a Qualtrics premium account is needed. From June 21st 2016 I got the opportunity to use the Qualtrics premium account of the University for free, so the survey went online from June 21st 2016. The survey was distributed via social media and it was also sent to the employees of different companies by email. Around one thousand people received the survey link. Eventually, a total of 347 people responded to the survey by June 27th 2016. The survey was closed on this date. A total of 251 respondents are included in the eventual analysis. More information about this is provided in paragraph 4.1.

3.5 Data analysis and methodology

In order to test the first hypothesis, an ANOVA test has been performed. This technique is able to identify whether averages significantly differ from each other or not. Since the first hypothesis tests if the average willingness to buy of the four treatment groups differ, the ANOVA test is most suitable. This test is also most suitable, because no rank order is expected in the effectiveness of strategies. No rank order means that none of the strategies is expected to be more effective than another. If a rank order was expected, a Kruskal-Wallis test would have been more suitable. The ANOVA test will provide a test statistic of which the significance is shown with the p-value. The test statistic is based on a comparison of four numbers representing the willingness to buy for the four treatment groups.

Another ANOVA test is performed in order to see if the nudges affect consumers' expected happiness. Again, this test is most suitable as averages of expected happiness of the four

treatment groups are compared and no rank order is expected. So, none of the nudges is expected to result in a higher level of expected happiness than the other nudges.

Besides ANOVA, also the technique of multiple linear regression was conducted. This technique is able to find out whether other variables affect the relationship between the nudge and willingness to buy. In other words, this technique allows one to find out the effect of the nudge on willingness to buy when controlling for various factors, such as food neophobia, consumer susceptibility or demographics. By doing this, one can obtain valuable information about the dependent variable. The multiple regression analysis was conducted twice, as this study also looked at the effect of nudges on expected happiness.

4. RESULTS

The primary aim of this chapter is to provide a detailed analysis of the data, which was gathered through a survey, and to present the interpretations of several coefficients needed for the hypothesis testing. The first paragraph is associated with the initial information concerning the dataset and the preparation of the data. The second paragraph contains the main analysis, which is followed by an additional analysis in the third paragraph. The chapter ends with a summary of the hypotheses and whether they are confirmed or not.

4.1 Data information and preparation

During the seven days of data collection, 347 participants responded to the survey. Nevertheless, 32 questionnaires reported with numerous missing values and 64 of the respondents got to see the aforementioned fifth picture. As a result, 251 responses were taken into account. The reason for the missing values is that these participants had not been shopping online in the past three months. After reporting a “No” for question 1, the survey was finished. Fortunately, out of the 251 questionnaires, no missing values were reported. Also, five participants were randomly picked to win a Discovered exotics gift box.

4.1.1 Scaling check

With regard to the questions of the food neophobia scale, five of them were negatively stated and as a result the 7-point Likert scale should be inversed, so as to match with the others. Otherwise, the Cronbach's Alpha value would be negative. The questions of the other two scales were all positively stated, so they do not need adjustments on the 7-point Likert scale.

4.1.2 Reliability check

In order to determine the reliability of a scale, we have to conduct a reliability test. Different tests can be used, but Cronbach's Alpha is the best-fitting test in this case. Cronbach's Alpha is a way to determine whether multiple items may form one scale together. This is assessed based on the correlation of the different items. The score will be between 0 and 1, and the scale is considered reliable when the score is at least 0.7. All three scales were deemed reliable with a Cronbach's Alpha of $\alpha = 0.875$, $\alpha = 0.892$ and $\alpha = 0.774$ (Table 2), which means the scales have a big internal reliability and can thus be calculated as one mean.

Variable's Name	Number of Items	Cronbach's Alpha
Food Neophobia Scale	10	0.875
Consumer Susceptibility to Interpersonal Influence	12	0.892
Willingness to Buy	3	0.774

Table 2. Reliability Check

4.2 Main analysis

This paragraph contains results of two measures that both test the first hypothesis, a one-way ANOVA test and a multiple regression analysis.

4.2.1 One-Way ANOVA F-test

Willingness to Buy

In order to test the first hypothesis “*Nudging by one of the strategies affects the willingness to buy of potential customers of exotic fruits in an online environment more than nudging by the remaining strategies*”, an ANOVA test has been performed. Table 3 shows the sample size, mean and standard deviation of every treatment group that is included in the comparison. The ANOVA test does not provide evidence for statistically significant differences between the four treatment groups, $F(3,247) = .105, p > .05$. Therefore, we can say that the willingness to buy exotic fruits and vegetables online is not being influenced significantly more by one strategy than by the remaining strategies. However, an additional analysis will be done in paragraph 4.2.2 (regression analysis).

	Treatment Group	N	Mean	Standard Deviation
	1 – Environmental Signals	64	3.6406	1.12107
	2 – Social Norm	62	3.6022	1.29851
	3 – Group Behavior	62	3.6344	1.21872
	4 – Neutral	63	3.7196	1.23742
	Total	251	3.6494	1.21332

Table 3. Descriptive statistics of the ANOVA test. Dependent variable: Willingness to Buy.

Expected Happiness

Another ANOVA test has been performed in order to see which nudging strategy affects consumers' expected happiness most. Table 4 shows the sample size, mean and standard deviation of every treatment group that is included in the comparison. The ANOVA test does not provide evidence for statistically significant differences between the four treatment

groups, $F(3,247) = .098, p > .05$. Therefore, we can say that the happiness one expects to get from eating products from the Discovered web shop is also not being affected significantly more by one strategy than by the remaining strategies. However, an additional analysis for expected happiness will also be done in paragraph 4.2.2 (regression analysis).

	Treatment Group	N	Mean	Standard Deviation
	1 – Environmental Signals	64	4.81	1.435
	2 – Social Norm	62	4.81	1.412
	3 – Group Behavior	62	4.92	1.045
	4 – Neutral	63	4.86	1.318
	Total	251	4.85	1.306

Table 4. Descriptive statistics ANOVA test. Dependent variable: Expected Happiness.

4.2.2 Multiple Regression Analysis

Willingness to Buy

In order to find out whether other variables affect the relationship between the nudge and the willingness to buy, a multiple linear regression analysis was conducted. This model is a versatile model for summarizing the relationship between predictor variables and an outcome variable.

First, a regression is performed to check the effect of nudges on willingness to buy (1). Results also show that coefficients are negative for all treatment groups, which means that the different nudges all negatively affect willingness to buy, but not significantly. In addition, Table 5 shows that the model has only 0.1 percent explanatory power ($R^2 = .001$). So, the regression model overall predicts willingness to buy poor. Second, another regression is performed to check whether more variables confound the relationship between nudges and willingness to buy (2). One may expect that the extent to which a consumer is neophobic or neophilic and the extent to which a consumer is susceptible to interpersonal influence may also affect the aforementioned relationship. For this reason, these variables are included in the model. Both the coefficients and the standard deviation for the treatment groups are about the same as in the first regression. Again no effect is found of nudges on willingness to buy when controlled for ‘food neophobia’ and ‘consumer susceptibility’. Table 5 shows that the model has only 3.7 percent explanatory power ($R^2 = .037$). So, the regression model overall predicts willingness to buy poor, as 96.3 percent of willingness to buy is explained by variables that are not included in the model or by a random error. The relation between

consumer susceptibility and willingness to buy, however, is positive and significant, which means that highly susceptible consumers (mean ≥ 3) are more willing to buy exotic fruits and vegetables online. The relation between food neophobia and willingness to buy is also positive. Thus, neophilic consumers are more willing to buy exotic fruits and vegetables online than neophobic consumers, but not significantly. Third, a last regression is performed in which also some social-demographic variables are included in the model to check whether these variables affect the relationship between nudges and willingness to buy (3). Social-demographic variables that are included are gender, age, education, income, work situation and family composition. Again no effect is found of nudges on willingness to buy. Table 5 shows that the model has 9.6 percent explanatory power ($R^2 = .096$). This regression model predicts willingness to buy better than the other two models. The relation between consumer susceptibility and willingness to buy is weaker than in the second regression but still significant. Results also show that younger consumers are more willing to buy exotic fruits and vegetables online and also consumers who live alone are more willing to buy exotic fruits and vegetables online than the reference category (living together). The coefficient of family composition shows that people living alone score on average 0.388 points higher on the willingness to buy scale, holding everything else constant.

So, this regression analysis also provides evidence that none of the nudges affects willingness to buy significantly more than another one, even when the model controls for multiple variables.

	(1)	(2)	(3)
Constant	3.720*** (0.154)	2.824*** (0.486)	3.806***(0.659)
Treatment 1	-0.079 (0.217)	-0.106 (0.214)	-0.086 (0.215)
Treatment 2	-0.117 (0.218)	-0.070 (0.216)	-0.081 (0.214)
Treatment 3	-0.085 (0.218)	-0.045 (0.216)	-0.068 (0.215)
Food Neophobia (FNS)		0.041 (0.076)	0.068 (0.076)
Susceptibility (CSTII)		0.232*** (0.078)	0.151* (0.083)
Gender			-0.079 (0.181)
Age			-0.017*** (0.006)
Education			-0.046 (0.244)
Income			

Low			-0.288 (0.242)
High			-0.217 (0.222)
Work Situation			
Part-time			-0.176 (0.255)
Full-time			-0.253 (0.295)
Family Composition			
Alone			0.388* (0.213)
N	251	251	251
R ²	0.001	0.037	0.096

Table 5. Summary of multiple regression analysis.

Dependent Variable: Willingness to Buy. Standard errors are in parentheses. Reference categories: treatment=neutral, gender=woman, education=none, income=average, work situation=unemployed, family composition=living together.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

Expected Happiness

The same regressions have been performed for the dependent variable 'Expected Happiness'.

First, the first and second treatments negatively affect expected happiness (1), as their coefficients are negative. They are not significant and around zero with a relatively high standard deviation, so no actual conclusions can be drawn here. The low explanatory power of 0.1 percent shows that the model does not predict the outcome variable well. Second, another regression is performed in which also the variables food neophobia and consumer susceptibility are included (2). Again no effect is found of nudges on expected happiness when controlled for 'food neophobia' and 'consumer susceptibility'. Table 6 shows that the model has 11.7 percent explanatory power ($R^2 = .117$), which is higher than the first regression model. Therefore, this model predicts expected happiness better. Highly susceptible (mean ≥ 3) and more neophilic consumers expect to be happier by eating exotic fruits and vegetables. Third, a last regression is performed which also controls for social-demographic variables (3). Also no significant effect is found of nudges on willingness to buy when controlled for social-demographic variables. Table 6 shows that the model has 19.3 percent explanatory power ($R^2 = .193$), which makes this model predicts expected happiness best. Consumer susceptibility and food neophobia are still significant, but also age and income turn out to have a significant effect on expected happiness. The younger a consumer

is and the lower the income he or she receives, the happier this person is when eating exotic fruits and vegetables.

So, the regression analysis again provides evidence that none of the nudges affects expected happiness significantly more than another one, even when the model controls for multiple variables.

	(1)	(2)	(3)
Constant	4.857*** (0.165)	2.213*** (0.501)	3.452*** (0.670)
Treatment 1	-0.045 (0.233)	-0.056 (0.220)	0.039 (0.218)
Treatment 2	-0.051 (0.235)	0.036 (0.222)	0.046 (0.218)
Treatment 3	0.062 (0.235)	0.183 (0.223)	0.186 (0.219)
Food Neophobia (FNS)		0.325*** (0.078)	0.327*** (0.077)
Susceptibility (CSTII)		0.320*** (0.080)	0.302*** (0.085)
Gender			-0.188 (0.185)
Age			-0.024*** (0.006)
Education			-0.315 (0.248)
Income			
Low			-0.461* (0.246)
High			0.238 (0.226)
Work Situation			
Part-time			-0.181 (0.259)
Full-time			0.027 (0.300)
Family Composition			
Alone			0.312 (0.216)
N	251	251	251
R ²	0.001	0.119	0.193

Table 6. Summary of multiple regression analysis.

Dependent Variable: Expected Happiness. Standard errors are in parentheses. Reference categories: treatment=neutral, gender=woman, education=none, income=average, work situation=unemployed, family composition=living together.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.3 Heterogeneity

As many different characteristics may affect attitudes and final purchase decisions, nudges might work better for some consumers than for others. Therefore, this paragraph contains a heterogeneity analysis, in which different personal characteristics are highlighted. At the

same time, this heterogeneity analysis will test the second and third hypothesis as stated in the theoretical framework.

4.3.1 Willingness to Buy

The scale of willingness to buy has a mean of 3.64 and is normally distributed. To see if nudges have different effects within different categories of WTB, a distinction has been made between respondents with levels lower than or equal to 4 on a 7-point Likert scale (N=165) and respondents with levels higher than 4 on this scale (N=86). A regression analysis is conducted in order to determine the influence of the types of nudges on the two categories of willingness to buy.

Results indicate that the group with the higher willingness to buy was not affected significantly more by the examined nudges than the group with the lower willingness to buy. So, people with higher levels were not more susceptible to the nudge (Table 7).

	Low WTB	High WTB
Constant	3.008*** (0.132)	5.045*** (0.133)
Treatment 1	0.047 (0.185)	-0.288 (0.188)
Treatment 2	-0.260 (0.191)	-0.179 (0.182)
Treatment 3	0.059 (0.182)	0.092 (0.201)
N	165	88
R ²	0.022	0.053

Table 7. Summary of regression analysis on the effect of nudges for consumers with low WTB and consumers with high WTB.

Dependent Variable: Willingness to Buy. Standard errors are in parentheses. Reference categories: treatment=neutral.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.3.2 Food Neophobia

An interesting variable included in the survey is the food neophobia scale. This scale is not normally distributed; it is more negatively skewed to the right (skewness= -.774), as shown in Figure 11. Due to this, the participants were overall more neophilic instead of neophobic. This could be due to the era we live in, in this decade foreign influences are more prominent. Since the regression in paragraph 4.2.2 shows that a positive, but weak relationship is found between food neophobia and willingness to buy, it is interesting to know if neophilic respondents are more affected by the nudge than neophobic respondents. The total group

of respondents is divided into two groups: a neophilic group with scores equal to 5 or higher and a neophobic group with scores lower than 5.

Results from a regression analysis indicate that the examined nudges neither significantly affect the levels of willingness to buy of neophobic consumers nor those of neophilic consumers (Table 8). Since there is no big difference between the effects of nudges on willingness to buy for both groups, one may conclude that no evidence is found to accept the second hypothesis.

	Neophobic	Neophilic
Constant	3.600*** (0.286)	3.757*** (0.184)
Treatment 1	-0.003 (0.365)	-0.090 (0.272)
Treatment 2	-0.412 (0.368)	0.089 (0.274)
Treatment 3	0.003 (0.360)	-0.100 (0.281)
N	88	163
R ²	0.027	0.004

Table 8. Summary of regression analysis on the effect of nudges on willingness to buy for neophobic and neophilic consumers.

Dependent Variable: Willingness to Buy. Standard errors are in parentheses. Reference categories: *treatment=neutral*.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.3.3 Consumer Susceptibility to Interpersonal Influence

The scale of consumer susceptibility to interpersonal influence was also included in the survey. It is not normally distributed, but more positively skewed to the left (skewness=.442). This is shown in Figure 14. Due to this, the participants were overall less susceptible to interpersonal influences. Since the regression in paragraph 4.2.2 shows that a significant and positive relationship is found between consumer susceptibility and willingness to buy, it is interesting to know if more susceptible consumers are more affected by the nudge than less susceptible respondents. The total group of respondents is divided into two groups: a highly susceptible group with scores equal to 3 or higher and a less susceptible group with scores lower than 3. This distinction is based on the distribution of the scale.

Results from a regression analysis indicate that the examined nudges neither significantly affect the levels of willingness to buy of less susceptible consumers nor those of highly

susceptible consumers (Table 9). Since there is no big difference between the effects of nudges on willingness to buy for both groups, one may conclude that no evidence is found to accept the third hypothesis.

	Less susceptible	Highly susceptible
Constant	3.604*** (0.209)	3.885*** (0.213)
Treatment 1	-0.417 (0.302)	0.271 (0.291)
Treatment 2	-0.125 (0.292)	-0.073 (0.311)
Treatment 3	-0.027 (0.296)	-0.165 (0.304)
N	147	104
R ²	0.016	0.004

Table 9. Summary of regression analysis on the effect of nudges on willingness to buy for highly susceptible and less susceptible consumers.

Dependent Variable: Willingness to Buy. Standard errors are in parentheses. Reference categories: treatment=neutral.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.3.4 Expected Happiness

Besides the analysis in which expected happiness is chosen as a dependent variable, it is interesting to analyse the effect of nudges on willingness to buy based on one’s expected happiness. The variable was tested on normality first, by means of a Shapiro-Wilk test. The test statistic is .876, which is significant with $p < .05$. This means that expected happiness does not have a normal distribution. For this reason, the bivariate correlation test Spearman’s Rho is performed and a significant rho of .434 is found. Therefore, one may conclude that consumers with a higher expected happiness are more inclined to buy exotic fruits and vegetables online.

To see how nudges may affect willingness to buy of consumers with higher levels of expected happiness differently than willingness to buy of consumers with lower levels of expected happiness, another regression has been run (Table 10). Results show that the effect of nudges on willingness to buy does not significantly differ for consumers with higher expected happiness and for consumers with lower expected happiness, as the coefficients are for both groups not significant and around zero.

	Low expected happiness	High expected happiness
Constant	3.264*** (0.218)	4.000*** (0.188)

Treatment 1	-0.370 (0.315)	0.032 (0.261)
Treatment 2	-0.431 (0.332)	-0.083 (0.258)
Treatment 3	-0.203 (0.315)	-0.050 (0.264)
N	86	165
R ²	0.025	0.002

Table 10. Summary of regression analysis on the effect of nudges on willingness to buy for consumers with lower and higher levels of expected happiness.

Dependent Variable: Willingness to Buy. Standard errors are in parentheses. Reference categories: treatment=neutral.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.3.5 Message

The question “What message did you get from the front page of the web shop?” gives some interesting results. 87 respondents have not seen any message, so one may conclude that these respondents got to see the neutral banner. Also, 44 respondents have received the message “Enjoy Together!”, while respondents of this treatment group were not included in this analysis, so nobody could actually have seen the banner with the message “Enjoy Together!” (Table 11).

	Frequency
Storytelling farmers (strategy 1)	64
Best choice (strategy 2)	18
Recipe (strategy 3)	38
No message (neutral)	87
Moment of enjoyment (extra research)	44
Total	251

Table 11. Overview of the outcomes from question 21 in survey. These 251 respondents saw the banner including one of the three strategies or the neutral banner (people in treatment 5 are excluded).

For the respondents who received the message of the first three banners (120 respondents), another two regressions have been run to see if the nudge has an effect on willingness to buy and expected happiness for them who consciously saw the banner. None of the nudges affect willingness to buy or expected happiness more than the others (Table 12). Remarkably, coefficients are now positive instead of negative compared to the regressions in paragraph 4.2.2, which shows that a nudge effect is more likely to be found for people who remember the nudge. This can possibly indicate that the current nudge is not sufficient. In addition, the sample size is too small to find significant effects in this study.

	WTB	EH
Constant	3.471*** (0.299)	4.471*** (0.316)
Treatment 1	0.222 (0.360)	0.556 (0.380)
Treatment 2	0.029 (0.391)	0.446 (0.413)
Treatment 3	0.269 (0.356)	0.578 (0.376)
N	120	120
R ²	0.008	0.022

Table 12. Summary of multiple regression analysis. Standard errors are in parentheses. Reference category: Neutral.

*** Significant at the 1 percent level; ** Significant at the 5 percent level; * Significant at the 10 percent level.

4.4 Hypotheses

Findings from both the ANOVA test and the regression analysis in paragraph 4.2.1 and 4.2.2 do not provide significant evidence to accept the first hypothesis. Therefore, the null-hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is not accepted (Table 13). It can be concluded that none of the examined nudging strategies causes a significant difference among levels of willingness to buy exotic fruits and vegetables in an online environment. Thus, none of the strategies works better than another one and therefore, we cannot conclude which strategy works best.

Findings from regression analyses in paragraph 4.3, in which the effect of nudges on willingness to buy is specifically tested for subgroups based on personal characteristics, do not provide evidence to accept the second and third hypothesis. Therefore, the null-hypothesis is accepted twice and the alternative hypotheses (H_2 and H_3) are not accepted (Table 13). From this, it can be concluded that the willingness to buy of people who are more neophilic or people who are more susceptible to interpersonal influences is not affected significantly by nudges.

H_1	<i>Nudging by one of the strategies affects the willingness to buy of potential customers of exotic fruits in an online environment more than nudging by the remaining strategies.</i>	Not accepted
H_2	<i>Neophilic consumers are more affected by the examined nudges than neophobic consumers.</i>	Not accepted

H₃	<i>Highly susceptible consumers are more affected by the examined nudges than less susceptible consumers.</i>	Not accepted
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Table 13: Hypotheses summary.

5. CONCLUSION & DISCUSSION

The previous chapter highlighted the results of the study and in the current chapter those results will be discussed, including their implications for marketers and companies.

Both willingness to buy and expected happiness are not affected significantly by different nudging strategies, even if controlled for personal characteristics as food neophobia and consumer susceptibility and social-demographic factors as gender, age, education, income, work situation and family composition.

Within the regression analysis on willingness to buy, coefficients of the treatment groups are negative, very small and not significant. The negative coefficients show that the nudges do not foster willingness to buy for exotic fruits and vegetables in a web shop, but they even impede compared to the reference category in which no nudging strategy was implemented. Within the regression analysis of expected happiness, the coefficients are around zero and also not significant. One should keep in mind that the relatively low sample size and the lack of statistical power are partly the cause of insignificant results.

To answer the main research question, it can be concluded that none of the examined nudging strategies works significantly better than others in order to push online consumers to buy (more) exotic fruits. The study indicates that Dutch consumers are willing to buy exotic fruits and vegetables in an online store, but that this is not affected by nudging strategies. There is also no big difference in the effects of nudging strategies on expected happiness, which means that people expect to be happy by eating exotics in general, but that specific nudges do not affect this general level of expected happiness.

Managerial implications

Given the product category of exotic fruits and vegetables, this study shows that none of the nudging strategies significantly works better than others in the online environment. Yex still wants to know in what way the company can affect customers' decision-making process to do an actual purchase in the Discovered web shop. Therefore, I recommend that Yex implements the examined banners in its web shop and analyses the effects. In this way, the experiment is real-life and might have different effects. Also, effects can be measured for a larger sample.

6. LIMITATIONS & RECOMMENDATION

In this last chapter, a few limitations of this study are mentioned. From this limitations, a recommendation for future research is given.

One limitation of this study is external validity. Since the experiment is based on a picture which is shown for 30 seconds instead of a real interactive web shop, the effects for a real world experiment might be different. It cannot simply be assumed that effects in the 'lab' are also present in the real world. Especially not in this type of study, as the experience is different on an interactive web shop compared to the experience of looking at just a picture. Another limitation is the device on which respondents filled out the survey. When respondents opened the survey link on their mobile phones, the picture was only as big as the mobile's screen. Therefore, respondents could not see the banner of the picture clearly and they were certainly not able to read the text. This could be a reason why nudging strategies in the online environment did not work as good as they did in the offline environment. Furthermore, the sample size of 251 respondents can be seen as a limitation of this study. The total of 251 respondents was divided over four treatment groups. This small sample size per examined nudge makes eventual results less reliable. When the different nudging strategies were applied to a real web shop, the total sample size was automatically higher and more reliable results could have been found then. Last but not least, a different product category can be chosen in order to test nudging strategies in the online environment. Exotic fruits and vegetables belong to the food sector in the first place and they are not very known in the Netherlands in the second place. When a product category is chosen which consists of tangible, non-fresh and well-known products that Dutch consumers are already buying online, the effect of nudging strategies will be easier to test.

To sum up, my final recommendation for future research follows from the limitations of this study and consists of the following points:

- 1) Choose a different product category;
- 2) Take a bigger sample size;
- 3) Put participants behind a computer screen and let them browse on a real web page.

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APPENDICES

Appendix 1 – Nudging literature

Authors	Title	Year	Classification of nudging strategies
Wageningen university and consultancy Schuttelaar & Partners	Helpt 'Nudgen' bij een gezonde en duurzame keuze?	2012	Environmental signals Social norms Group behavior
Pierre Schlag	Nudge, Choice Architecture, and Libertarian Paternalism	2010	Default rule Bypassing & enlisting Counteract the impetus Priming Information providence
Mark Egan	Nudge Database	2013	No classification (list of empirical nudges from 101 academic papers)
Leonhard K. Lades	Impulsive consumption and reflexive thought: Nudging ethical consumer behavior	2012	1) Strengthen willpower (System 2) 2) Reduce impulsive desires to consume (System 1) 3) Guiding impulsive behavior in ethical directions by making salient certain self-images that favour ethical consumption.

Appendix 2 – Survey

Dear participant,

My name is Marinka van der Ark and I am studying Behavioral Economics at Erasmus University Rotterdam. I am conducting this questionnaire in order to collect data for my master thesis. It will only take 15 minutes to finish. If you fill out this questionnaire fully, you can win a nice box with exotics!!

Enjoy & thanks for helping me!

1) Have you shopped online in the past three months? Yes / No

2) Please indicate how much you agree with the following statements:

- I shop online, because I want to save money
- I shop online, because I want to save time
- I shop online, because I want to save effort
- I shop online, because it has 24-hour accessibility
- I shop online to search for new products
- I shop online, because of the wide variety of brand choices
- I shop online, because not all products are available in a store close to me
- I shop online, because of a greater availability of information

3) Please indicate how much you agree with the following statements:

- I often consult other people to help choose the best alternative available from a product class
- If I want to be like someone, I often try to buy the same brands that they buy
- It is important that others like the products and brands I buy
- To make sure I buy the right product or brand, I often observe what others are buying and using
- I rarely purchase the latest fashion styles until I am sure my friends approve of them
- I often identify with other people by purchasing the same products and brands they purchase
- If I have little experience with a product, I often ask my friends about the product.
- When buying products, I generally purchase those brands that I think others will approve of
- I like to know what brands and products make good impressions on others
- I frequently gather information from friends or family about a product before I buy
- If other people can see me using a product, I often purchase the brand they expect me to buy
- I achieve a sense of belonging by purchasing the same products and brands that others purchase

4) Have you ever shopped for groceries online? Yes / No

5) Where do you pay attention to when buying sustainable (non-fresh) food in general? Multiple answers are possible.

Price, Brand, Packaging, Mark, Healthy, Fair Trade, Biological, I do not pay attention on anything, Else

6) Where do you pay attention to when buying fresh food in general? Multiple answers are possible.

Price, Brand, Freshness, Ripeness, Decoy / Damage, Colour, Smell, Value for Money, Else

7) What is your gender? Male / Female

8) Would you like to buy fresh products online Yes / No / Maybe → Why (not)?

- 9) Yes: Money, time and effort savings, Bigger assortment, Shop whenever I want, No travel costs, Availability (not available close to me), Inspiration, Else.
No: Feel and See product, Expensive, Less fresh and healthy feeling, I prefer the supermarket, Immediate possession, Delivery costs, Don't want to fill in personal data, Else.

10) Please indicate how much you agree with the following statements:

- I am constantly sampling new and different foods
- I don't trust new food
- If I don't know what is in a food, I won't try it
- I like foods from different countries
- Ethnic food looks too weird to eat
- At dinner parties, I will try new food.
- I am afraid to eat things I have never had before
- I am very particular about the foods I will eat
- I will eat almost anything
- I like to try new, ethnic restaurants

11) Would you be willing to buy novel/unfamiliar products online? Yes / No / Maybe --> Why (not)?

12) Yes: Risk-lover, Curiosity, Taste, Variety, Else.

No: Big change on dissatisfaction, Late adopter, I want/need explanation about the products, Else.

13) What is your age?

14) How quick do you adopt new and innovative products in general?

Right away / Soon / Normal / Late / Very late

15) What is your highest education?

None/Basis/VMBO/HAVO/VWO/MBO/HBO/WO

16) Please indicate how much you agree with the following statements:

- I eat more diverse / international lately

The new brand 'Discovered' is being launched recently. Discovered is a range of fresh exotic fruits and vegetables. Discovered wants to convey the following:

"We see it as a challenge to search the world for products to surprise and delight you, working exclusively with farmers who meet the very highest quality standards and who have the same passion for their product as we do. It is only natural that we strictly observe those values relating to safety and sustainability.

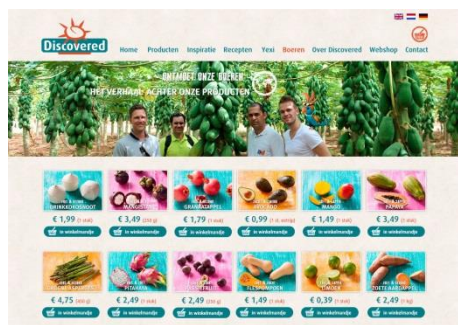
We want you to be able to enjoy as many unusual fruits and vegetables as possible. And we want to bring this passion into your home with Discovered products. We will take you with us into the world of our producers and give you a glimpse into where their products are from and what they taste like. We bet you'll taste the difference!

We want to convince you of the versatility of exotics and show you how easy they are to use with our recipes, tips and inspiration. In no time at all you'll be able to serve up something completely different that's guaranteed to surprise and delight you and your guests. Exotics also make a healthy snack for young and old at any time of the day. Are you ready to discover the world with us?"



The following picture shows the front page of the Discovered web shop. The top 12 products are shown, provided with the price. Look at the front page carefully (PICTURES ARE SHOWN IN BIGGER FORMAT AT THE END OF APPENDIX 2).

Treatment 1



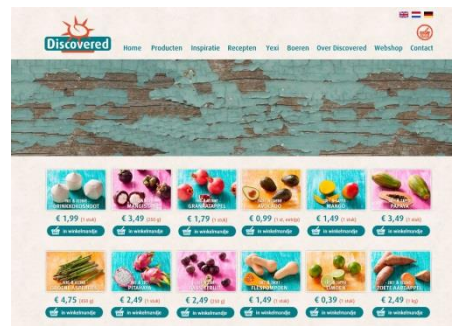
Treatment 2



Treatment 3



Treatment 4



17) Please indicate how much you agree with the following statements:

- It is very likely that I would buy products on this web shop
- I am willing to buy gifts on this web shop
- I am willing to recommend this web shop to others
- I would enjoy eating the exotics sold in this web shop

18) Please indicate how much you agree with the following statements:

- This web shop makes me (more) curious about exotic fruits and vegetables
- I find the prices I saw realistic / acceptable
- When I know the origin of the exotics (story behind it), I am more likely to buy Discovered products
- When I know which exotics 'most' customers buy, I am likely to buy the same exotics
- When I know the nutrition value of the exotics, I am more likely to buy Discovered products

19) I recognise most of the exotics on this front page Yes / No / I don't know

20) I consume exotic fruits and vegetables often Yes / No / I don't know

21) What message did you get from the front page of the web shop?

"Meet our farmers. The story behind our products." / "Passion fruit. Best Choice!" / "Refreshing Pitahaya shake. For sporty people!" / I didn't see any message. / "Discovered moments. Enjoy together!"

22) Please indicate how much you find the following statements important when visiting a web shop.

Reliability, Accessibility, Reputation, Experience, Broad assortment, Service, Fast delivery, Easy to send
retour, Low delivery costs, No minimum purchase amount, Safe payment, Quality guarantee, Else.

- 23) What is your income? << / Average / >>
- 24) What is your current state of work? Fulltime / Part-time / Unemployed
- 25) What is your family composition? Married/living together with children,
Married/living together without children, Single with children, Single without children, Living with my
parents.
- 26) For what reason would you buy exotic fruits and vegetables? Healthy / Nice / Luxurious /
Inspiration / Curiosity / Variety / I don't want to buy them / Else

THE END



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€ 1,99 (1 stuk)

in winkelmandje



€ 3,49 (250 g)

in winkelmandje



€ 1,79 (1 stuk)

in winkelmandje



€ 0,99 (1 st, eetrijp)

in winkelmandje



€ 1,49 (1 stuk)

in winkelmandje



€ 3,49 (1 stuk)

in winkelmandje



€ 4,75 (450 g)

in winkelmandje



€ 2,49 (1 stuk)

in winkelmandje



€ 2,49 (250 g)

in winkelmandje



€ 1,49 (1 stuk)

in winkelmandje



€ 0,39 (1 stuk)

in winkelmandje



€ 2,49 (1 kg)

in winkelmandje

Discovered Home Producten Inspiratie Recepten Yexi Boeren Over Discovered Webshop Contact

UK NL DE

BEST CHOICE

PASSIEFRUIT - ZOET & ZUUR

<p>FRIS & BEZOND DRINKKOSNOOT</p> <p>€ 1,99 (1 stuk)</p> <p>in winkelmandje</p>	<p>ZOET & MIJK MANGISTAN</p> <p>€ 3,49 (250 g)</p> <p>in winkelmandje</p>	<p>FRIS & BEZOND GRANATAAPPEL</p> <p>€ 1,79 (1 stuk)</p> <p>in winkelmandje</p>	<p>ZACHT & SMEDIG AVOCADO</p> <p>€ 0,99 (1 st, eetrijp)</p> <p>in winkelmandje</p>	<p>ZOET & SAPPIG MANGO</p> <p>€ 1,49 (1 stuk)</p> <p>in winkelmandje</p>	<p>ZOET & SAPPIG PAPAYA</p> <p>€ 3,49 (1 stuk)</p> <p>in winkelmandje</p>
<p>VERS & BEZOND GROENE ASPERGES</p> <p>€ 4,75 (450 g)</p> <p>in winkelmandje</p>	<p>FRIS & ZOET PITAHAYA</p> <p>€ 2,49 (1 stuk)</p> <p>in winkelmandje</p>	<p>ZOET & ZUUR PASSIEFRUIT</p> <p>€ 2,49 (250 g)</p> <p>in winkelmandje</p>	<p>ZOET & ZACHT FLESPOMPOEN</p> <p>€ 1,49 (1 stuk)</p> <p>in winkelmandje</p>	<p>FRIS & SAPPIG LIMOEN</p> <p>€ 0,39 (1 stuk)</p> <p>in winkelmandje</p>	<p>ZOET & BEZOND ZOETE AARDAPPEL</p> <p>€ 2,49 (1 kg)</p> <p>in winkelmandje</p>

Discovered Home Producten Inspiratie Recepten Yexi Boeren Over Discovered Webshop Contact

VERFRISSENDE PITAHAYA SHAKE VOOR SPORTIEVE MENSEN!

<p>FRIS & BEZOND DRINKKOSNOOT</p> <p>€ 1,99 (1 stuk)</p> <p> in winkelmandje</p>	<p>ZOET & MIJK MANGISTAN</p> <p>€ 3,49 (250 g)</p> <p> in winkelmandje</p>	<p>FRIS & BEZOND GRANAATAPPEL</p> <p>€ 1,79 (1 stuk)</p> <p> in winkelmandje</p>	<p>ZACHT & SMEDIG AVOCADO</p> <p>€ 0,99 (1 st, eetrijp)</p> <p> in winkelmandje</p>	<p>ZOET & SAPPIG MANGO</p> <p>€ 1,49 (1 stuk)</p> <p> in winkelmandje</p>	<p>ZOET & SAPPIG PAPAYA</p> <p>€ 3,49 (1 stuk)</p> <p> in winkelmandje</p>
<p>VERS & BEZOND GRÖENE ASPERGES</p> <p>€ 4,75 (450 g)</p> <p> in winkelmandje</p>	<p>FRIS & ZOET PITAHAYA</p> <p>€ 2,49 (1 stuk)</p> <p> in winkelmandje</p>	<p>ZOET & ZOOR PASSIEFRUIT</p> <p>€ 2,49 (250 g)</p> <p> in winkelmandje</p>	<p>ZOET & ZACHT FLESPOMPOEN</p> <p>€ 1,49 (1 stuk)</p> <p> in winkelmandje</p>	<p>FRIS & SAPPIG LIMOEN</p> <p>€ 0,39 (1 stuk)</p> <p> in winkelmandje</p>	<p>ZOET & BEZOND ZOETE AARDAPPEL</p> <p>€ 2,49 (1 kg)</p> <p> in winkelmandje</p>

Treatment 4

Discovered Home Producten Inspiratie Recepten Yexi Boeren Over Discovered Webshop Contact

UK NL DE

FRIS & BEZOND - DRINKKOSNOOT
€ 1,99 (1 stuk)
in winkelmandje

ZOET & MIJK - MANGISTAN
€ 3,49 (250 g)
in winkelmandje

- FRIS & BEZOND - GRANAATAPPEL
€ 1,79 (1 stuk)
in winkelmandje

ZACHT & SMOEDIG - AVOCADO
€ 0,99 (1 st. eetrijp)
in winkelmandje

ZOET & SAPPIG - MANGO
€ 1,49 (1 stuk)
in winkelmandje

ZOET & SAPPIG - PAPAYA
€ 3,49 (1 stuk)
in winkelmandje

VERS & BEZOND - GROENE ASPERGES
€ 4,75 (450 g)
in winkelmandje

FRIS & ZOET - PITAHAYA
€ 2,49 (1 stuk)
in winkelmandje

ZOET & ZOOR - PASSIEFRUIT
€ 2,49 (250 g)
in winkelmandje

ZOET & ZACHT - FLESPOMPOEN
€ 1,49 (1 stuk)
in winkelmandje

FRIS & SAPPIG - LIMOEN
€ 0,39 (1 stuk)
in winkelmandje

- ZOET & BEZOND - ZOETE AARDAPPEL
€ 2,49 (1 kg)
in winkelmandje

