What Influences Consumers' Channel Preferences?

Master Thesis

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Abstract

Since the late 90's the World Wide Web has rapidly penetrated modern society. This includes the possibility to buy goods and services online. In a time span of two decades, the change of consumer behaviour has let to more than 20% of all purchases in the Netherlands are done in a web shop. Although the majority of purchases are still done in physical stores, the trend towards buying goods online seems irreversible. Given the impact of this trend on retailers, e-tailers and consumers, it is relevant to understand better why consumers sometimes prefer to buy their goods online and sometimes in a physical store. Are variables like price and convenience the main drivers, or is channel preference driven by variables like age and need for advice?

The goal for this thesis is to research the influence of different variables on the consumers' channel choice (online or in a physical store). Product- and consumer related variables were tested amongst a representative Dutch based audience. The research result made clear that variables like type of good, age and the wish for visual inspection make a significant difference regarding the consumers' preference for one of both channels. On the other hand, variables like convenience, possession of a car and holding a product in hand, were not a significant driver for either online or offline preference. Interesting outcomes that confirm, but also challenge, current conventional thinking.

Based on the outcome of the research, it can be concluded that both channels own their respective strength; hence both channels seem to have viability for the future. Based on this, a recent development like the Omni channel approach, that optimally fulfils consumer's needs by integrating the strengths of the online and offline environment, can be expected to become more and more successful. The outcomes of this research can be useful for retailers and e-tailers that wish to improve their current web shop or physical store, as well for those who are working towards a handshake between both sales channels.

Keywords: online, offline, channel, e-tailer, retailer, experience goods, search goods.

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1. Introduction

Historically, consumers in need of a good, visited the nearest shop in town and bought what they needed. But over time, this consumer behaviour regarding shopping has changed. Mobility increased due to better train connections and due to the fact that during the 60's and 70's car penetration grew very fast, with now almost every household owning a car, and some owning even two or more. Like in the Netherlands, where 8 million cars are owned by 7.8 million households (CBS, 2018). The increase in mobility has facilitated consumers to travel much further if a certain good at the right specification can be bought against better terms somewhere else than in their own town or city. Since the last 20 years consumer behaviour regarding shopping has increased even more. Since the late 90's the World Wide Web has rapidly penetrated modern society. As a consequence, the possibility to buy goods and services on the web (online) became available. In a modern country like the Netherlands this development took place in only a few years time. Consumers have quickly adapted to the new possibilities, facilitated by entrepreneurs who have set up online platforms (web shops) where consumers could buy their goods. Nowadays, every half year, 95% of the Dutch population buys one or more goods from a web shop. The average online spending through web shops during the first six months of 2017 was €757 per shopper, which is 23% of their total spending on products and services (Shopping tomorrow GFK, 2017). It is expected by GFK that the share of online spending will increase to 35% in 2022. One of the reasons for this huge increase is that consumers see more and more advantages, and less disadvantages, of doing their purchases online. However, looking from the other side, it can be stated that nowadays "only" 23% of the total expenses are done through online purchases, and 67% are still from transactions done in physical store. Overall, this indicates that (Dutch) consumers still buy their goods mainly in a physical store, but that the online channel is becoming increasingly important. What do consumers buy online and what kind of goods do they buy offline? Research shows an interesting distinction between products that are bought in either of both channels. Holiday trips are a good example of something that is typically bought online and food products are mostly bought in the physical store (CBS, 2017). Research that explores the reasons behind this distinction could help to better understand and influence the behaviour of the consumer.

2. Research Problem and Research Objectives

As mentioned, during the last couple of years, a lot of research has been done to get a better understanding of the online consumer search- and buying decision process. However, how consumers make the decision between online and offline, and what variables (e.g. price and convenience) influence that decision, could be further explored. Moreover, it would help if we better understand whether other variables (e.g. car possession) influence the relation between the variables and the final channel choice.

The objective of this thesis is to research the influence of different variables on the channel choice (online or in a physical store). Consequently, this research will give a clearer insight on the reasons why consumers prefer to buy online or why they prefer to buy in physical stores and how this decision is being influenced. Especially for traditional retailers with shops it is important to better understand what drives consumers in this respect, because it will allow them to respond more successfully to the "online trend".

2.1 Research Objectives

The research will focus on: "**The influence of different factors on consumers' channel preferences when they purchase goods"**

2.2 Research Design

The research will be focussed to measure the role of four product variables that influence consumers' final decision on the purchase channel, namely:

1. **Type of the good**
   - Experience goods
   - Search goods
2. **Sensory Attributes**
3. **Logistics**
   - Delivery time
   - Size and weight

4. **Price Sensitivity**
   - Price between channels
   - Possibility to compare prices
   - Price volatility
   - Price differences between markets

The research will, next to product variables, also focus on four user variables that influence consumers' final decision on the purchase channel, namely:

5. **Need for advice**
6. **Leisure Shopping**
7. **Convenience orientation**
8. **Age**

Next to the eight variables mentioned, three moderating variables will be researched.

9. **Car Possession**
10. **Brand trust**
11. **Income**

All the variables will be discussed in the theoretical framework.

3. Theoretical framework

In this chapter, literature on offline shopping and online shopping will be discussed and research hypotheses will be developed. As mentioned in the introduction part, Internet's potential should not be underestimated. During previous years, the number of online transactions increased a lot and they are still heavily growing. Many consumers and companies have gained more trust in the Internet for completing their day-to-day businesses and transactions. Despite of this, as we speak, offline transactions are still more numerous than online transactions and it is not expected that off line buying will completely disappear. What moves and triggers people to buy some type of products offline and other type of products online? Why are online transactions growing faster for certain products than others? What are the product- or user characteristics that make consumers decide to buy some type of goods more online and some type of goods more offline?

Product variables

3.1 Type of Goods

Nowadays, product categorization is an important part of company strategies and to decide if a product can be sold successfully online or better in the physical store. A literature overview (Varvara & Mityko, 2011) showed 22 different categorization models from 52 different researchers. Philip Nelson was the first to classify products, namely in experience and search products. Later on, (Darby and Karni, 1973) expanded this concept to: Search, experience and credence goods. **Search goods** are those products that consumers can search, inspect and compare (search behaviours) prior to the purchasing (Nelson, 1970). Consumers can easily assess the quality before they actually buy the good. An example of a search good is a book. The material of which the cover is made of (hard or soft cover), the price and the size can be well assessed by searching for the product online.

Nelson (1974) defined **experience goods** as those whose qualities cannot be easily determined prior to a purchase. In addition, (Kline, 1998) provided two conditions defining experience goods. Firstly, direct experience is required for more information on the dominant product attributes. Secondly, the search for information for these dominant attributes is more expensive and more difficult than direct product experience. Only after trying the good, an opinion about the quality, benefits and downside of the product can be shaped. An example of an experience good is perfume. The quality and smell can't be judged by just looking at the package. The price can be observed, but the odour of the perfume can only be judged by personal experience. Lastly, **credence goods** are those

whose qualities and benefits might even not be perceived after purchasing them, so consumers have to rely on word of mouth, recommendations or brand reputation as a sign of quality. (Nelson, 1970). A good example of credence good is the degree of a specific college or university. In this paper, only search and experience goods will be discussed. Credence goods are not relevant for this thesis, because most of them cannot be bought in a physical store.

As mentioned, Nelson's defines experience goods as those who can only qualify after being purchased. However, (Wright and lynch, 1995) broadened this definition by replacing "after purchasing" by "after using". Nowadays, a lot of retailers create the occasion to try products first before the consumer purchases them. For example, the perfume mentioned earlier, can be tried when a consumer visits a physical store. Or consumers even receive free samples proactively when they visit the store. Furthermore, Chiang and Dholakia (2003) note that such information is difficult to obtain electronically. In conclusion, literature makes clear that experience goods often require personal inspection, because the online search for information about the dominant attributes is really difficult. Thus, to obtain this kind of information (about experience goods), consumers tend to visit the physical store.

Consequently, the following hypothesis is proposed:

H1: Consumers are more likely to shop online when they buy search goods instead of experience goods.

3.2 Sensory Attributes

Sensory attributes can be directly determined through our senses, particularly by touch, smell and sound. (Degeratu & Rangaswamy & Wu, 2000). The importance of sensory attributes seems to differ over time. Fifty years ago, people used to assess almost every product that they bought by looking into the sensory attributes. In the following decades they trusted more on the expertise of retailers and the level of quality that well-known brands stood for. As a consequence, it became less important for them to assess the sensory attributes themselves. In the following decades the consumer loyalty to brands and retailers diminished. Following (Degeratu et al. 2000) this means that the importance of assessing sensory attributes has regained territory. Some sensory attributes, such as the feel of a product, are difficult to assess online. The only way to determine these attributes is by visiting a physical store. It is probably for this reason that today many offline retailers create the possibility for consumers to assess a product by using their own senses.

Consequently, the following hypothesis is proposed:

H2: Consumers for whom assessing sensory attributes themselves is important, are less likely to buy online.

A clear link between sensory attributes and brand authority is evident. Based on the research done by (Dick et al. 1990), (Degeratu et al. 2000) state: “In the limit we can conceive of situations where the brand name becomes the surrogate for all the attributes for which information is missing or costly to obtain”. Conversely, when information about new attributes become available, the importance of existing attributes, particularly the brand name, is diminished. This indicates that brand trust is a moderator on the relationship between sensory attributes and online preference.

The above is specifically relevant for the consumers’ channel choice, because in the case of consumers shopping online, they cannot assess the sensory attributes themselves and need to rely more on brand names.

Consequently, the following hypothesis is proposed:

H3: When consumers’ brand trust is high, they are more likely to buy online.

3.3 Logistics

Making a decision to buy either online or offline, is impacted by some logistic aspects. Buying offline means that customers have to travel to a shop during opening hours, but once they have bought the goods, they can immediately start using it. Buying online means that they can order at any convenient moment, but the actual delivery time between order placement and the good arriving at home, might be perceived as waste of time. On the other hand, the trade-off between shopping time and delivery time is also impacted by the size and weight of the good. For example, shopping at IKEA seems to be highly driven by the need of immediate possession, but size and weight might be a barrier. Talking about logistics solutions, Dutch e-tailer Coolblue added reverse logistics of old products to their delivery, taking away one of the disadvantages that online shopping originally had. Below some more details on both logistic aspects.

3.3.1 Delivery time

When a consumer buys a good in a physical store, this creates the ability to possess and use it directly after the purchase. We call this phenomenon immediate possession. Immediate possession refers to the instantaneous delivery of products or services. (Rohm & Swaminathan, 2004).

Sometimes, immediate possession is very important. For example, if a consumer wants to prepare a meal but forgot to buy an important ingredient. In this situation immediate possession, no delivery time, is unavoidable. Delivery time is the time interval from the moment of ordering until the moment when the product is delivered to the consumer (C. So, Jing, Sheng, Song, 1997). Nowadays, many companies guarantee a certain delivery time as part of their e-commerce strategy. This seems to be a good idea following (Balasubramanian, 1998) who researched amongst direct marketers and conventional retailers. He suggests "*direct marketers can reduce consumer resistance to catalogue or Internet purchases by reducing delivery time"*. Consumers motivated by immediate possession may prefer to shop in a physical store instead of doing an online purchase, although shortening the delivery time of online purchases might change their offline preferences. Consequently, the following hypothesis is proposed.

H 4: Consumers who prefer short delivery times, are less likely to shop online.

3.3.2 Size and weight

Even when consumers prefer immediate possession, size and weight of the good might be a barrier for buying offline. As we all understand, the larger the good and the package around it, the more a challenge to take the good to your home. Weight is another interesting aspect, and also weight in relation to size. Weight on its own might be a barrier for shopping offline. Why would a consumer carry a heavy product, if it can be delivered to his home? Consequently, the following hypothesis is proposed:

H5: To prevent the burden of size and weight, consumers tend to buy more online.

3.3.2 Car possession

The main effect between the burden of weight and size and a preference for online shopping might be impacted by the fact of possessing a car (moderator). A consumer who only owns a bicycle might find the package of a PC and the accessories much too big to take home. However, if you own a car, the size of a PC package is not a problem for taking the good to your home. Additionally, it also makes the good available for immediate use. Consequently, the following hypothesis is proposed:

H 6: Car possession leads to buy goods less online (and more offline).

3.4 Price

3.4.1 Price difference between channels

Although price is one of the product attributes, it is a different kind of attribute than for example sensory attributes. It varies across the purchase channels whereas the sensory attributes themselves are not different between channels (but only the way to obtain information about it). (Degeratu, et al., 2000) state: "We consider price as a separate search attribute because it varies across purchase occasions unlike other product-specific (non) sensory attributes that are relatively stable across purchase occasions". This might indicate that price is one of the dominant drivers for people to shop either online or offline. To further explore the impact of price on shopping behaviour, some price related elements are discussed below.

3.4.2 Possibility to compare prices

Price is a very absolute and single-minded fact. That makes is very easy to compare. For example, if consumers want to compare nutritional values, they have to compare at least four data (fat, protein, sugar, carbohydrates) of a product, with the same four data of another products. But how to obtain information about prices, is very different for both channels. It needs quite some labour to visit various shops and much less labour to do the same comparison between online platforms. (Bakos, 1997) states: "An important difference between online and offline markets is that for attributes for which information can be obtained in both media, search costs are typically lower for online than for offline". Following this, consumers with a high price sensitivity probably spend their time and energy for price comparison preferably by visiting online web shops. Even more, nowadays they are serviced by sites that have already obtained all price information needed. A good example are sites that compare telecom- and energy prices. For example (www.gasenlicht.com) or (www.kieskeurig.com). They also have a click-through feature so that consumers can shop online directly from these comparing sites.

3.4.3 Price volatility

Consumers are aware that prices for a certain good or service may differ over time. This means that they are aware of the fact that the moment of buying might result in a better or worse price. Suppliers are also aware that a part of all consumers are sensitive to price differences over time. The best example for this is the way how consumers and airlines behave regarding pricing during a period of time. This phenomenon is well described in various papers. For example, (D. Gillen, B Mantin, 2008) state: "While some consumers are completely insensitive to prices, others pay more or less attention to prices, how they compare with other similar products, and the fluctuations of these prices over time. "Consumers may have different perceptions about prices they encounter, and these perceptions can influence their purchasing decisions or the timing of those purchases; this is important in industries which rely heavily on cash flow for operating capital such as airlines".

Above is specifically relevant in the online shopping environment. Consumers are able to check prices every day or even every hour, and for example airlines are aware of this and have made this an important part of their revenue management. In the offline environment, prices are less volatile. Shops mostly charge a fixed price for a good and sometimes they run a price promotion for a week or so. Afterwards the price returns back to the standard price.

As price volatility seems to be higher in the online environment, consumers that are sensitive for getting the best price deal for a specific product, are expected to shop more online.

3.4.4 Price differences between markets

Due the limited mobility of consumers, brand owners have made use of the possibility to create prices differences between various markets. A crate of Heineken beer sold in the south of Belgium for a few euro's less than in the Netherlands, will not activate consumers to drive southwards to shop their crate for just a few euro less. The same counts for an iPhone, that is priced fifty euro's less in Austria than in the Netherlands. However, due to online platforms, consumers nowadays can benefit from these price differences. Buying your books in America, or electronics through Alibaba, is just a mouse click away. It is clear that the benefit that consumers can obtain is only possible through the online

environment. This indicates that consumers who are after the best price for their newest iPhone, will tend to purchase online. Of course, they will consider the obtained price benefit against the longer delivery time that comes with it.
In conclusion, if consumers are high price sensitive, they tend to prefer online shopping, but only if they have a clear benefit in mind. Consequently, the following hypothesis is proposed:

H 7: If price sensitivity is high, consumers are more likely to buy online

3.4.5 The role of income

Obtaining the lowest price for a specific good creates an absolute discount. This discount is possibly perceived different by people with low incomes than by people with high incomes. (B. Dellaert and Kreg Lindberg, 2010) did some research between the relationship of income and price sensitivity amongst tourists. They found that income and price are two of the main drivers for price sensitivity. Furthermore, the results show that there is a systematic effect of income (moderator) on price sensitivity. This means that people with a high income are less price sensitive than people with a lower income.
Consequently, the result might be that people with a lower income and more price sensitivity, are more into comparing prices to find the best price.
Therefore, income is a moderator on the main effect between price sensitivity and online shopping. Consequently, the following hypothesis is proposed:

H 8: The main effect between price sensitivity and online shopping, is impacted by the level of net income.

User variables

3.5 Need for advice

Before consumers decide to place an order, they are in need for information. Nowadays you would expect that all this information can be obtained from the internet. However, not every single piece of information obtained from the internet points into the same direction. This might cause consumers to become uncertain and not feeling able to make the buying decision completely on their own. (Kollmann et al, 2012) described:

"Concerning service, offline channels feature the option of expert advice about offered products. Undecided or uncertain customers may want to council customer service before making a purchase decision". The impact of desire for service is researched by Kollman et al. They conclude:

"Our research highlights the motivational causes of competing and synergic effects in a multichannel environment. Building on the previous discussion, our results indicate that the desire for service, rather than risk aversion could potentially cannibalize customers away from the online channel".

Online shops have tried to compensate the advantages that offline shops have regarding the need for advice by the implementation of avatars. Although this might fulfil the consumers need, it seems not sufficient to eliminate the advantages that offline stores have. This is described in more detail by (Holzwarth et al., 2006):

"*Although research has shown that in online channels the utilization of avatars, i.e. an animated graphic representation of a sales agent, positively impacts on consumers' attitude towards the product and their intention to purchase this product, the online channel still falls behind the offline channel in terms of service possibilities".*

Research has indicated that indecisiveness and uncertainty motivate consumers to council customer service, and that desire for advice or confirmation drives consumers to offline. Consequently, the following hypothesis is proposed:

H9: Need for advice on a specific good or service, decreases the likelihood to buy online.

3.6 Leisure Shopping

People may shop with different intentions, also called shopping orientations. Sometimes a consumer has an urgent need for replacing something that is broken. Another intention is to go out for shopping in order to have a nice day and to enjoy life. The purchase itself is not so important, and even without an actual purchase the shopping trip might be seen as successful. Based on these two complete different ways of shopping, a lot of research has been examined to determine with which "thoughts" consumers are going to shop. (Babin, Darden and Griffin, 1994) called this phenomenon: hedonic and utilitarian shopping values. Utilitarian shopping has been descripted as energic, task-related, and rational (Batra and Ahtola, 1991). In other words, utilitarian shopping is the way of shopping where people want to complete a task and finish it at soon as possible. This means that this type of shoppers do not enjoy or harbour neutral feelings towards shopping.

Hedonic shopping has been described as festive and ludic (Babin, Darden and Griffin, 1994). In fact, buying a product is rather a side issue whilst enjoying life and to celebrate it are the real goals. Hedonic shopping is also described by them as "recreational shopping". Recreational shoppers are people who enjoy shopping as a leisure-time activity. In addition, shopping orientations are described by many other researchers. Task-oriented versus experiential-oriented (Verhoef et al., 2009), task-oriented versus recreational-oriented (Kaltcheva and Weitz, 2006) and convenience-oriented versus economic-orientated (Bellenger and Korgaonkar, 1980).

In fact, all these definitions describe the same distinction. The shopping orientations depend on the process goal of the consumers. Process goals refer to the way how consumers pursue an outcome goal. Process goals are the small steps that are taken to complete the outcome goal, for example the purchase of a specific product. In conclusion, consumers have different shopping orientations and these depend on their outcome goals. Some consumers might find online shopping, while sitting on a comfortable coach, the biggest pleasure when it comes to shopping. Nevertheless, it is assumed that due to the social aspects of offline shopping, the majority of hedonic shoppers perceive offline shopping as a more pleasure experience than online shopping. Consequently, the following hypothesis is proposed:

H10: The tendency to enjoy shopping (recreational shopping) has a negative effect on online shopping.

3.7 Convenience Orientation

Whether a purchase is done in the offline or online environment, is also driven by the need for convenience. Convenience has many different angles. Obtaining advice can be seen as an aspect of convenience, though it is not the most common meaning of it. For this reason, the need for advice will be researched by its own unique hypothesis (H9). Convenience orientation as discussed in this section will be related to the most common aspects of convenience like time reduction, flexibility in timing, saving travel effort etc. A survey by (Jarvenpaa & Todd, 1997) amongst two hundred twenty consumers, found that convenience was the single most salient benefit of online shopping. As (Burke, 1998) stated, online shopping seems to be more convenient than offline shopping because it can be done during any hour and it can by combined by any other activity, like exercise cooking and child-care. Additionally, online shoppers can avoid crowding parking lots or bad weather. It also allows shoppers to access distant stores.

Many elements together seem to make online shopping more convenient. All these elements can be structured into five types of convenience that online shoppers may perceive: (1) reduction of time for shopping; (2) flexibility in the timing for shopping; (3) saving the effort of visiting stores; (4) saving of aggravation, and (5) the opportunity of buying on impulse or in response to an advertisement. (Darian, 1987).

Time reduction seems to be an important and undisputed element regarding convenience through online shopping, and the opportunity of buying on impulse or in response to an advertisement also seems a logic driver for online shopping.
Consequently, the following hypothesis is proposed:

H11: Consumers who are in need for more convenience are likely to buy online.

3.8 Age

The use of the World Wide Web is increasing fast. As mentioned in the introduction, one of the motivations of this trend is that consumers see more and more advantages, and less disadvantages, of doing their purchases online. Although this is the case for almost all consumers, still some consumers change their channel preference easier than others. Does the age of a person impact their willingness to change from being an offline buyer into becoming a buyer in both channels? Literature about the effect of age on buying goods from the internet addresses both the conventional wisdom (younger people are quicker to adapt online) as well as the other side of the coin (older people have more shopping experience, so they tend to be more confident to shop online). For example, (Trocchia and Janda, 2000) state that - due to the fact that some older people suffer from physical disabilities- the Internet can provide them with access to the outside world including information searches and web shopping. A survey by (Pew Research Centre, 2017) concludes that although older generations use the Internet less for socializing and entertainment, they use it more as a tool for searching for information, emailing, as well as buying products. Above is supported by (Wan et al., 2010), who state that although the older generation might adapt new technologies less quick than younger people, they have more shopping experience, even though most of such experiences are rooted from offline shopping. This might give them an edge in buying certain types of products on the web. On the other hand, (Czara et al. 2009) describe that computer skills are more easily learned by younger individuals. They have greater experience with the internet, whilst older people tend to perceive greater risks. And (Wan et al., 2010) describe that the older generation probably does not shop online as much because they are less familiar with and slower to adapt to the new environment. As they state: “Thus, the older generation shies away from online shopping more than the younger generation”. Furthermore (Trocchia and Janda, 2000) consider that the main barriers for older consumers to shop online are lack of IT experience, resistance to change and their insistence to try the product before purchase. Although literature gives many reasons why the impact of age does not by definition indicate that older people do not shop as frequent online as younger people, the current believe is that age does have an impact on channel choice. Following that, the hypothesis on the impact of age is:

H12: Older people tend to buy fewer goods online.

3.9 Conceptual Model

The below conceptual model visualizes the independent product and user variables as well as the moderating variables. Both influence the consumer's decision on the purchase channel.

4. Methodology

The methodology section describes how the research has been designed. An explanation about the questionnaire is included, followed by a description of the survey and an explanation of the validation of the outcomes. The survey can be obtained in Appendix I.

4.1 Data Collection

The Netherlands is part of the leading group of 28 European countries with the most households having access to the internet. In 2017, 98 percent of the Dutch population had internet access at their homes. The average access rate in Europe is 87 percent (CBS, 2018). As mentioned earlier, online spending have increased a lot during the last decade, mainly due to the fact that consumers see more advantages (and less disadvantages) of shopping online. Although almost 80% of purchases are done in physical stores, nowadays more than 20% of purchase transactions are done in the online environment.

With this information in mind, it can be assumed that it was not imperative to select a specific target group for the survey because almost everyone in the Netherlands is able to make a proper trade-off between online- and offline shopping.

Quantitative research has been carried out in order to be able to answer the research question by obtaining the right set of data required for a statistical analysis.

The questionnaire was distributed online through the website www.erasmusuniversity.eu.qualtrics.com. Although other research platforms could have been selected as well, the Erasmus platform provides high credibility to the audience, so it was expected that by using this platform a higher response rate could be realized. During a period of 7 days the survey was put online. Potential respondents were invited by email to fill in the survey. In addition, the hyperlink (URL) was posted on a Facebook account with more than 700 people listed as a friend. In both cases, people were gently asked to approach the questionnaire with just one click on the URL. Furthermore, the email sent to them included a request to forward it to friends or family. This method is called the “Snowball sampling method”. (Goodman, 1961). It increases the chance to collect useful data in a fast way. After completing the survey, the submitted data were stored on a server from Qualtrics. The data was analysed by the use of SPSS.

105 people responded the questionnaire. Unfortunately, two questionnaires were not completed. Because of that, these questionnaires were not continued, so 103 questionnaires were used for the analysis phase of the research. To complete this analysis the measurement per good was used (experience versus search) which is N = 103 x 2=206. As mentioned, one of the answering options for income was non-disclosable. Eight people chose this option, so the results of income were analysed with a total amount of 95 people.

4.2 The Questionnaire

The questionnaire was written in English. The questionnaire consisted of 15 questions in total. This included dichotomous questions and statements with a scale from 1 to 5. The first part explored respondents' behaviour and some demographic background. By using proven measuring methods per question, the research has measured consumer attitude and indicated behaviour with maximal reliability and validity. (J.A Kornick, S. Presser (2010). Below an explanation per question.

Attitude towards online shopping

The first question was linked to the first hypothesis*, "Consumers are more likely to shop online when they buy search goods instead of experience goods".* With this question, it can be analysed what kind of goods (experience or search) respondents buy frequently online. Six goods were shown, namely three experience goods (Perfume, Mattress and wall paint) and three search goods (Concert Ticket, Book and Phone Charger). Through a 5-point Likert scale, respondents could indicate per good the frequency of online buying. A Likert scale is an ordinal scale that starts with "never" and ends with "always" and assumes that the intensity of experience is a linear continuum. This follows the assumption that the attitudes can be measured. (Bowling, 1997).

Attitude towards inspecting a good before purchasing it

The questions "*Please indicate the importance of feeling and holding the below product before purchasing it"* and the question "*please indicate the importance of visual inspecting the below product before purchasing it"* were related to the second hypothesis, namely "*Consumers for whom assessing sensory attributes themselves is important, are less likely to buy online".* The goods shown in question 1 were shown again and respondents could indicate their opinion on a 5-point Likert scale. The first part was meant to measure the

importance of feeling and holding the product, the second part measured the impact of inspecting a good visually.

Attitude towards brand trust versus online shopping

The question "*To what extend do you trust brands within the below product categories"* is related to the third hypothesis "*When consumers' brand trust is high, they are more likely to buy online"*. The goods mentioned before were listed again and respondents could indicate on a 5-point Likert scale for which type of goods brands play an important role for them. In combination with the answers given on question 1 (respondents indicated which products they buy online) the analysis of the answers could be carried out by running a regression analysis.

Attitude towards logistics

The question "*When you intend to buy online, does a longer than expected delivery time changes your decision to buy online and visit a store?"* is related with the hypothesis "*Consumers who prefer short delivery times, are less likely to shop online"*. On a 5-point Likert scale, respondents could indicate how often they switched channels when the delivery time was longer than expected.

The question *"How important are the below aspects (size, weight and fragility) for your decision to buy an article online?"* measures the hypothesis: "*To prevent the burden of size and weight, consumers tend to buy more online"*. Respondents could indicate on a 5-point Likert scale how important these aspects were for them.

The last question about logistics related to car possession. The question *"Do you own a car?"* was a dichotomous question with the optional answers "yes" and "no. This question is related to the hypothesis "*Car possession leads to buy goods less online (and more offline)*".

Attitude towards price sensitivity

The statements "*I always compare prices between online stores"*, "*I believe that I get the best price when I buy online"*, "*By tracking price changes over time, I manage to buy online for the best price*" and "*By checking price differences between countries, I manage to buy online for the best price"* are related to the hypothesis "*If price sensitivity is high, consumers are more likely to buy online"*. These statements were measured on a 5-point Likert scale. Respondents could indicate how much they agreed or disagreed (with a neutral point). In addition, the role of income could play a role through price sensitivity. Consequently, the question *"What is your income?"* was created to analyse the hypothesis *"The main effect between price sensitivity and online shopping, is impacted by the level of net income"*. This question was responded on an ordinal scale that also offered the option "non-disclosable", as possibly some people would not want to disclose their income.

Attitude towards purchasing-advice

The statements "*When I am uncertain about making the right choice, I prefer:* (online versus offline) and the statement "*When I need advice of an expert before making a final choice, I prefer* (online versus offline) were related to the hypothesis "*Need for advice on a specific good or service, decreases the likelihood to buy online"*. These statements were measured dichotomously, so respondents could choose the preferred channel.

Attitude towards shopping in combination with pleasure

The statements *"When I want to spend leisure time to shop, I prefer* (online versus offline) and the statement: "*When I want to socialize with other people, I prefer:* (online versus offline) were related to the hypothesis "*The tendency to enjoy shopping has a negative effect on online shopping"*.

These statements were measured by two options allowing respondents to choose either of these.

Attitude towards convenience orientation

The statements *"Accessibility to any online shop around the globe is a benefit over physical shops"* and "*When physical stores are closed, I tend to buy the product online"* were related to the hypothesis: "*Consumers who are in need for more convenience are likely to buy online.*

These statements were measured on a 5-point Likert scale, so respondents could indicate how frequent these situations occur.

Questions with a demographic nature

The last part of the questionnaire consists of a set of questions with a demographic nature. The first question was about the age of the person. This question is an open question, so respondents could fill in their age. This question is related to the hypothesis "Older people tend to buy fewer goods online".

A question about education consisted of 5 answering options, comprising the most common degrees in the Netherlands. The question about gender was dichotomous as well as the question about car possession.

4.3 The Analysis

As mentioned above, the data were analysed by the use of SPSS. First, the research sample was viewed by descriptive analysis. Means were compared and conclusions about the research sample could be drawn. Secondly, an analysis of the correlations and means was done. Lastly, a multiple regression analysis was carried out. With this analysis, the dependent variable could be predicted, based on the value of the independent or predictor variables. (Field, 2005). Finally, an ordered logit regression was done as a robustness check.

4.3.1 Cronbach's Alpha

A Cronbach's alpha method was used to test the reliability of the questions. After completing this analysis, an alpha score was calculated. A score between 0.6 and 0.7 is acceptable and a score above the 0.7 is good or excellent. Thus, these values confirm the reliability of the questions. (Field, 2005).

In the questionnaire, some questions were split in a section about "search goods" and a section about "experience goods". For this analysis, the answers given for both kind of goods will be considered as separate groups. The alpha score for search goods related questions is more consistent than for the experience goods kind of questions. For search goods, the alpha score for the question "please indicate whether you buy these products online" is 0.701, which is excellent. For all other questions regarding search goods (visual inspection, brand trust and sensory attributes), the alpha score is between 0.505 and 0.600, which is acceptable. For experience goods the alpha score is less consistent.
Most of the questions have a score between 0.402 and 0.565.

For almost other questions (no split between search goods and experience goods), the alpha score is acceptable at a level of 0.600. For questions using a 2-point scale (online vs. offline) the Cronbach's alpha score does not add any value. In conclusion, almost every question is reliable with an alpha score around 0.600.

5. Results

5.1 Description of the sample

In total, 105 respondents completed the survey. When missing values are taken into account, a net sample of 103 respondents remains. Further details can be found in the methodology section. For the analysis, respondents were included two times with respect to both search and experience goods. This resulted in a sample size of N = 206. The measurement unit in the correlational and regression analysis is "respondent per good". A deeper dive into the background characteristics of the 103 respondents, makes clear that the sample is relatively diverse with respect to age. The average age centres around 38.4 years old (SD = 17.6). Slightly more females (56%) responded as opposed to males (44%). More than 70% of the respondents were highly educated, holding a bachelor's or master's degree. More details can be found in Appendix II.

5.2 Distribution of online and offline use

In the previous paragraph the sample was characterized. Before discussing the correlations, it is helpful to describe to what extent a respondent is likely to prefer the online channel as opposed to offline. This is the dependent variable in the analysis, labelled as "use". This was measured on a 5-point scale. As shown in the two figures on the next page, the distribution for search goods has more diversity than the distribution for experience goods. For search goods, no obvious cut-off point exists to divide the variable in a dichotomous offline/online use as opposed to a clear distinction with experience goods between completely offline versus partly online.

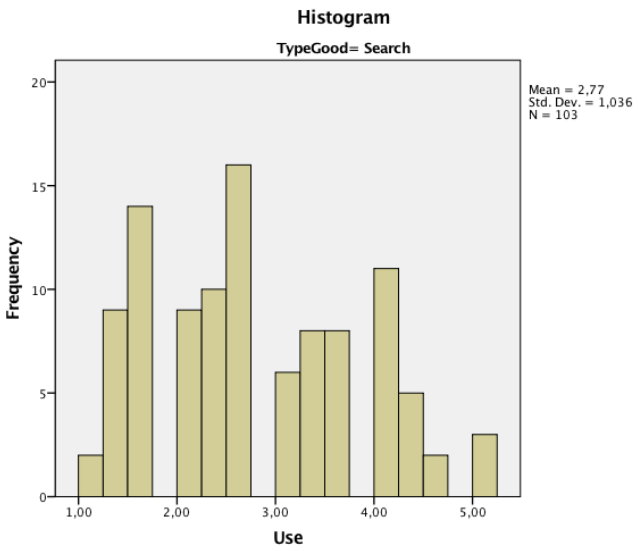

Figure I: Distribution of online use (for search goods)

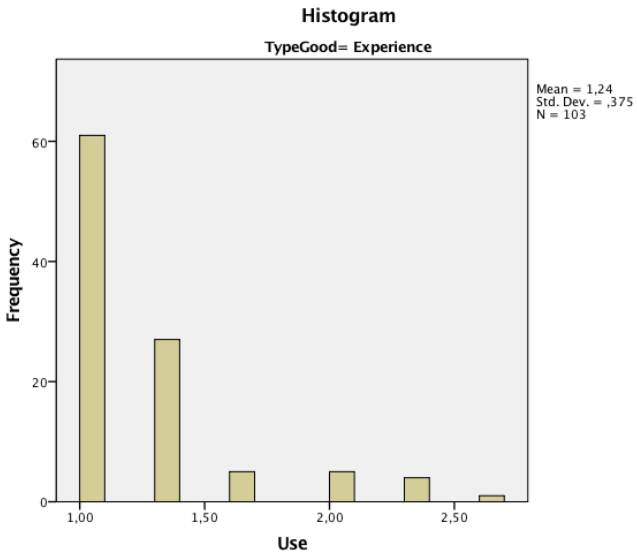

Figure II: Distribution of online use (for experience goods)

Note: For clarity reasons, the distributions of online preference are shown above in two separate histograms, one for search goods.(N=103), and one for experience goods (N=103). In Appendix III a histogram for each individual product as well as a histogram for the combined results (N=206) can be viewed.

Looking at the normality of the distributions for search and experience goods (see table tests of normality in appendix IV), both are significantly deviating from normality ($p < .050$). Additionally, the boxplot on the next page shows that 5 outliers for experience goods and none for search goods exist. However, the values shown are not unusual, being within the margin of the 5-point scale. The section concerning testing of the assumptions for the linear multiple regression, shows that the deviation from normality on the dependent variable does not lead to violations of the assumptions. For the sake of clarity and robustness, an additional analysis is included next to the linear multiple regression. The idea is to confirm whether the effect of the independent variables on the use of online shopping remains the same when, instead of an evenly distributed online shopping scale, a single item of the scale with a 5-point Likert outcome is tested. This will take the form of an ordered logit regression.

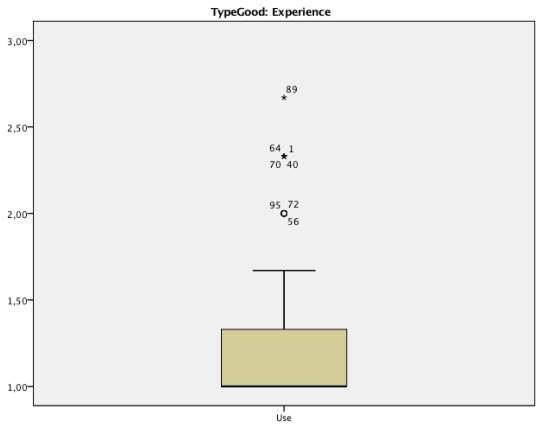

Figure III: Boxplot "experience" goods

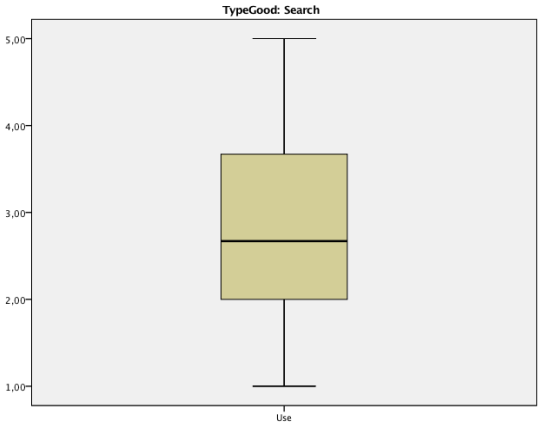

Figure IV: Boxplot "search" goods

5.3 Descriptive statistics and correlations

As a preparation for the multiple regression, the correlation between different constructs will be assessed. In Table I on the next page, the means, standard deviations and correlations can be viewed. Looking at the average for online use, it is clear that respondents tend more towards offline use than online use (M = 2.00), although there are differences between respondents (SD = 1.09). For the independent variables, price sensitivity and convenience score relatively positive as opposed to the other constructs. This is measured with a sample size of N=206.

Table 1: Correlation Analysis with Online Preference as Dependent Variable

			Channel	Type of goods	Visual	Holding	Weight	Size	Fragility	Delivery time	Price Sensitivity	Advice	Social	Convenience	Brand trust	Car Possesion	Gender	Education
Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Online preference	2.00	1.09	(-)															
2. Type of Good	.50	.50	.70**	(-)														
3. Visuals	2.58	1.15	-.50**	-.54**	(-)													
4. Holding	2.33	1.04	-.48**	-.54**	.70**	(-)												
5. Weight	2.26	1.17	-.10	.00	.12	0.04	(-)											
6. Size	2.78	1.23	.02	.00	.18*	.14*	.68**	(-)										
7. Fragility	2.55	1.18	-.07	.00	.21**	.20**	.43**	.63**	(-)									
8. Delivery Time	2.69	.99	.07	.00	.16*	.13	.04	.32**	.26**	(-)								
9. Price Sensitivity	3.78	.89	.07	.00	.00	-.02	-.05	-.25**	-.29**	-.03	(-)							
10. Advice	.39	.49	.08	.00	-.02	-.10	-.08	-.13	-.04	-.03	.22**	(-)						
11. Leisure Shopping	.31	.46	.07	.00	.'-.09	-.13	-.01	-.10	-.07	-.02	.22**	.03	(-)					
12. Convenience	3.14	1.00	.16*	.00	.03	-.05	.07	0.13	.08	.37**	.13	.13	.23**	(-)				
13. Brand trust	2.90	1.02	-.02	.00	.16*	.19**	.07	0.06	.13	.12	-.02	-.07	-.08	.06	(-)			
14. Car-owner	.64	.48	-.01	.00	-.06	.02	-.09	-.12	-.01	-.19**	.09	.07	.20**	-.16*	-.12	(-)		
15. Gender	.55	.50	.04	.00	.23**	.13	.25**	.27**	.12	.15*	-.07	-.13	-.07	-.07	.14*	-.31**	(-)	
16. Education	.45	.50	-.04	.00	-.14*	-.08	-.02	-.14*	-.09	-.07	.012	.05	-.01	.12	.02	-.06	-.18*	(-)
17. Age	38.58	17.55	-.17*	.00	-.16*	-.09	.01	-.16*	-.14*	.34**	.04	-.10	.15*	-.36**	-.21**	.55**	-.29**	.08

Note. N = 206 (2x103). * p < .05 ** p < .01 (two-tailed)
*. Correlation is significant at the 0.05 level (2-tailed).
Online preference was measured on a 5-point Likert scale where 5 = complete online use.
type of good was coded as 0 = experience and 1 = search. Gender was coded as 0 = male and 1 = female.
Car possessions is coded as 0 = no car and 1 = car. Education was coded as 0 = Bachelor's degree or lower and 1 = Master's degree or higher.
Age was measured in years. Social and advice were measured on a 2-point scale. All other variables were measured on a 5-point Likert scale.
* p < .05 ** p < .01 (two-tailed)

The most important and remarkable correlations will be explained. First of all, it is important to look how the independent variables correlate with online use. This is the most relevant variable because understanding the motivation for the choice of channel is the key objective of this research. From all constructs, type of good has the strongest correlation with online use ($r = .70$, $p < .01$). This means that search goods are bought more often online than experience goods. Additionally, convenience ($r = .16$, $p < .05$) has a positive correlation, which means that when a consumer is convenience oriented, more products will be bought online than in a physical store.

Apart from these positive correlations, several negative correlations exist as well. The constructs visual inspection ($r = -.50$, $p < .01$) and holding ($r = -.48$, $p < .01$) have a negative correlation with online preference. This means that if a consumer wants to see and hold a product, he or she tends to buy these products more often offline. Moreover, age has a negative correlation with using online channel as well ($r = -.17$, $p < .05$). The older a person is, the more often this person will tend to buy goods offline. Having now a clear image of how the independent variables correlate with online preference, it is interesting to note that visual inspection ($r = -.54$, $p < .05$) and holding ($r = -.54$, $p < .05$) have a negative correlation with type of good. This shows that visual inspection and holding the product is less important for search goods than for experience goods. When looked at the correlations between the independent variables, there are no significant relations with a score above .70. This indicates no multicollinearity in the linear multiple regression.

5.4 Assumptions of Linear Multiple Regression

To establish the validity of the regression analysis, it is important to check whether there are violations of the assumptions. This is needed in order to be able to generalize correctly from sample to population. As mentioned in the section concerning the distribution of the dependent variable, no assumptions were violated, though the dependent variables were not completely normally distributed. However, for the multiple regression the residuals were approximately normally distributed and the variance homogeneous (see figures below). Also, it can be assumed that a linear relationship exists between both the dependent variable and the separate independent variables and between the dependent variable and the independent variables collectively (more details in appendix V).

Moreover, there is no multicollinearity, because the variance inflation factor (VIF) is <4. Only a VIF >10 indicates that multicollinearity might be present (Field, 2005). This validates the conclusion at the end of the correlation section that no strong correlations exist between independent variables.

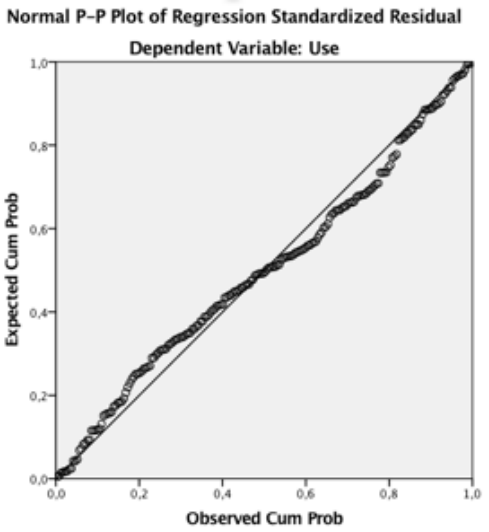

Figure V: P-plot dependent variable

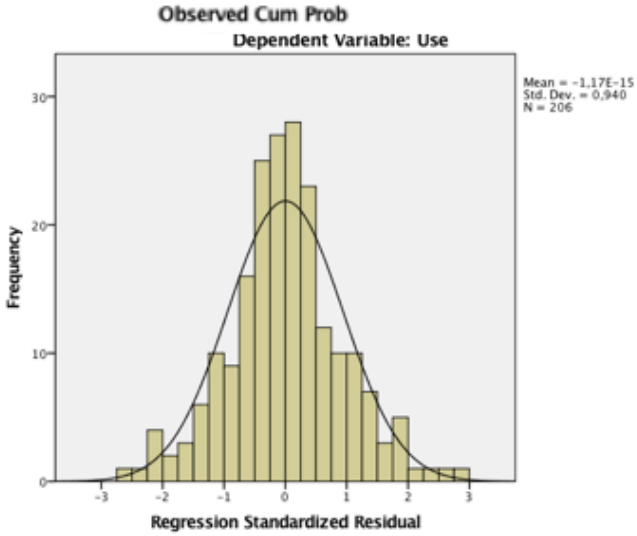

Figure VI: Histogram dependent variable

It can be concluded that no assumptions were violated with respect to the linear multiple regression. Nevertheless, (as mentioned before) for the sake of robustness, it is interesting to see whether the effect of the independent variables on the use of online shopping remains the same when an ordered logit regression will be executed.

5.5 Linear Multiple Regression

For the analysis, a hierarchical multiple regression was used. As control variables age and the dummies car possession, education (1= highly educated) and gender (1= female) were used. As moderators: trust, age, brand trust and car possession were included in the regression. The results will be presented in accordance with the hypotheses. In table II the results can be seen.

Table II. Hierarchical Regression Analysis with Online Preference as Dependent Variable

	Model 1				*Model 2*				*Model 3*			
Estimates	*B*	*SE*	*β*	*p*	*B*	*SE*	*β*	*p*	*B*	*SE*	*B*	*p*
Gender	.025	.165	.012	.878	.164	.120	.075	.174	.207	.119	.094	.085
Education	-.034	.156	-.016	.826	-.105	.108	-.048	.329	-.067	.109	-.031	.538
Car possession	.259	.193	.114	.182	.317	.134	.139*	.019	.593	.420	.261	.160
Age	-.014	.005	-.223**	.009	-.013	.004	-.208**	.001	-.002	.005	-.031	.690
Type of Good					1.25	.129	.572**	.001	2.68	.481	1.23***	<.001
Leisure Shopping					.073	.121	.031	.549	.101	.121	.043	.403
Advice					.140	.110	.063	.205	.162	.108	.073	.133
Delivery time					.023	.061	.021	.703	.124	.103	.113	.232
Weight					.000	.065	.000	.998	.079	.102	.085	.437
Fragility					-.106	.059	-.114	.076	-.030	.105	-.033	.772
Size					.077	.071	.087	.281	-.084	.127	-.095	.506
Price Sensitivity					.032	.064	.026	.616	.002	.067	.002	.971
Convenience					.107	.063	.098	.091	.106	.062	.097	.088
Visual					-.201	.068	-.211**	.003	.076	.193	.079	.694
Holding					-.035	.074	-.033	.638	-.087	.218	-.083	.690
Brand trust					.017	.052	.016	.738	.265	.178	.250	.137
Good * Brand Trust									-.178	.122	-.270	.146
Good * Age									-.022	.006	-.466**	<.001
Visual * Trust									-.088	.062	-.366	.158
Holding * Trust									.025	.069	.095	.719
Weight * Car possession									-.128	.130	-.165	.328
Fragility * Car possession									-.103	.124	-.149	.408
Size * Car possession									.222	.157	.330	.158
Delivery time * Car possession									-.119	.125	-.158	.342
R^2		.037				.597				.638		
Adjusted R^2		.018				.563				.590		
F-value		1.92				17.5**				13.3**		

Note. N = 206. * p < .05 ** p < .01 (two-tailed)

Online use was measured on a 5-point Likert scale, on which 5 means complete online use. Type of good was coded as 0 = experience good and 1 = search good. Gender was coded as 0 = male and 1 = female. Car possessions was coded as 0 = no car and 1 = car. Education was coded as 0 = Bachelor's degree or lower and 1 = Master's degree or higher. Age was measured in years. Social and advice were measured on a 2-point scale. All other variables were measured on a 5-point Likert scale.

The hierarchical multiple regression consisted of three models. The first model, only including control variables, was not significant ($F = 1.92$, $p > .05$). However, the second model, with the direct effects included, was significant ($F = 17.5$, $p < .01$). The model fit based on the adjusted R-square was .563, which means that 56.3% of the variation in online preference could be explained by help of the direct effects only. The model with the moderation was also significant ($F= 13.3$, $p < .01$) and could explain 59.0%. The individual effects will be assessed based on the unstandardized and standardized beta coefficient in Table II. This will be done in accordance with the hypotheses. The unstandardized coefficient will be shown for significant effects to indicate the impact on online preference. The standardized beta coefficient will be used to compare significant effects with each other. The higher the absolute value of the beta coefficient, the stronger the effect (Field, 2005). Model 2 will be used to assess the direct effects without interactions. Model 3 will only be used to evaluate moderating effects.

Below, the validation of the hypotheses will be discussed.

H1: Customers are more likely to shop online when they buy search goods instead of experience goods.

Model 2 shows that the unstandardized beta for type of good regarding online preference is 1.25, with a significance lower than .001 ($B = 1.25$, $p < .001$). This implies that for search goods, respondents tend to score 1.25 points higher on online preference as opposed to experience goods, confirmed by the highest relationship with online shopping when controlling for all the other variables in the regression. Based on the standardized effect ($\beta = .572$), the positive effect is stronger than the significant direct effects of age and visual. All in all, H1 can be accepted based on this research.

H2: Consumers for whom assessing sensory attributes[1] themselves is important, are less likely to buy online.

Model 2 also makes clear that the unstandardized beta for visual is -.201 regarding online preference with the significance of 0.003 ($B =-2.01$, $p < .05$). This implies a negative impact of visual inspection on the attitude towards online shopping. If visual inspection is seen as important, online shopping decreases with .0.211 point. Furthermore, visual inspection has the second highest (after search goods) significant direct effect on online shopping (β = -

[1] Consists of the aspects: visual and holding

.211). Another aspect of the sensory attributes is holding. The unstandardized beta for holding is -.035 regarding online preference, which means that this variable is not significant with a p-value of .638 (B= -.035, p > .05). All in all, H2 can be partially accepted. While the visual aspect of the sensory attributes decreases the likelihood for consumers to buy online, no significant difference exists for the aspect holding.

H3: When consumers' brand trust is high, they are more likely to buy online.
Model 2 shows that the unstandardized beta for brand trust is .017 regarding online shopping and the p-value of this variable is .738 (B= .017, p > .05). This implies that it cannot be concluded that a significant difference exists. As a consequence, H3 will be rejected.

H 4: Consumers who prefer short delivery times, are less likely to shop online.
In model 2, it can be seen that the unstandardized beta for delivery time is .023 regarding online shopping and the p-value of this variable is .703 (B= .023, p > .05). This implies that it cannot be concluded that a significant difference exists. H4 will be rejected.

H5: To prevent the burden of size and weight, consumers tend to buy more online.
Model 2 shows, regarding online, an unstandardized beta for size of .077 and the p-value is .281 (B= .077, p > .05). This implies no significant difference. The unstandardized beta for weight is .000 and the p-value is .998 (B= .000, p > .05). As a
Consequence, h5 will be rejected.

H 6: Car possession leads to buy goods less online (and more offline).
Model 2 shows that the unstandardized beta for car-possession is .317 regarding online preference with the significance of .019 (B = .317, p < .05).
This implies a positive effect of owning a car on the attitude towards online shopping. If car possession is increased by one unit, online shopping increases by .317 points on the 5-point Likert scale. This is unexpected, because the hypothesis suggested a tendency to shop more offline when a car is possessed. As a consequence, H6 will rejected.

H 7: If price sensitivity is high, consumers are more likely to buy online.
As model 2 shows, the unstandardized beta for price sensitivity is .032 regarding online preference. The p-value of price sensitivity is .616 (B= .032, p > .05). This indicates no significant effect on price sensitivity. As a consequence, H7 will rejected.

H 8: The main effect between price sensitivity and online shopping, is impacted by the level of net income per month.

As mentioned, income is a complex variable because eight missed values (no answer submitted by the respondents). As a robustness check, the regression is repeated with income included. When income is added, the total amount of respondents decreases to N=95. As the regression shows in appendix VI, income has no significant direct effect and the moderation income*price sensitivity is not significant either (B = -.212, p= .110). As a result, H8 will be rejected.

H9: Need for advice on a specific good or service, decreases the likelihood to buy online.

Model 2 shows that the unstandardized beta for advice is .140 regarding online shopping. The p-value of advice is .205. (B = .140, p > .05). This means no significant effect on advice. As a result, H9 will be rejected.

H10: The tendency to enjoy shopping has a negative effect on online shopping.

In model 2 can be observed that the unstandardized beta for leisure shopping is .073 regarding online shopping and that the p-value .539 is (B= .073, p > .05). This implies that no significant effect exists. As a consequence, H10 will be rejected.

H11: Consumers who are in need for more convenience are likely to buy online.

In model 2 is shown that the unstandardized beta for convenience is .107 regarding online shopping and the p-value of this variable is .091 (B= .107, p > .05). This indicates a not significant difference. However, when a significance level of p <.10 was used, the convenience variable was significant. To stay consistent, a p-value of .05 is used and H11 will rejected, but we can observe that this variable is close to a significant difference.

H12: Older people tend to buy fewer goods online.

In model 2 can be seen that the unstandardized beta for age is -.013 and that the p-value is .001 is. (B= -.013, p = .001) This indicates a negative impact of age on the attitude towards online shopping. With an increase of one year of age, the choice for online shopping decreases with .013 point on the 5-point Likert scale. Furthermore, age has the third highest (after search good and visual inspection) significant direct effect on online shopping (β= -.208). As a consequence, H12 will be accepted.

In addition, when looking at the moderation effect between type of good and age, model 3 shows that the interaction term is significant (β = -.466, p < .001). In figure VII, this effect is graphically visualized.

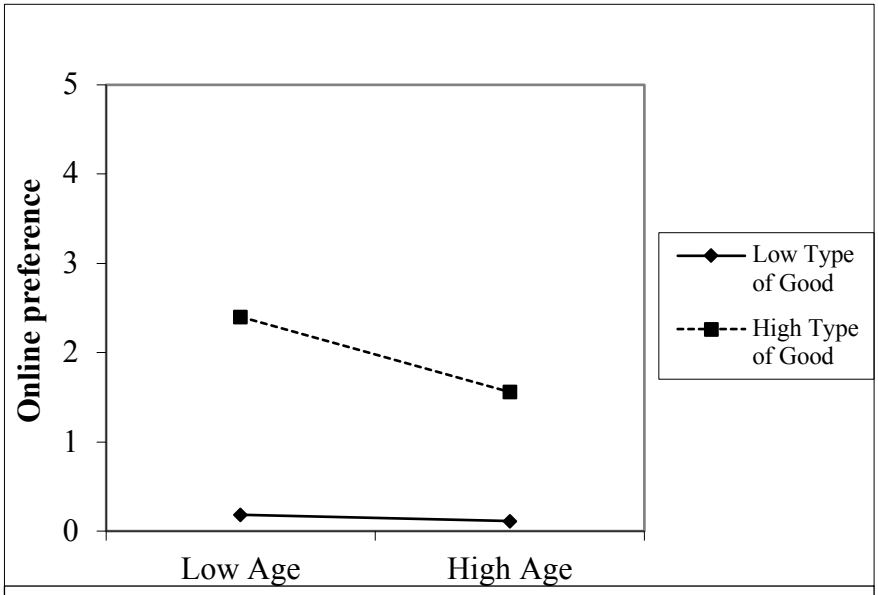

Figure VII: Interaction effect of age on the relationship between type of good and online preference.

Low Type of Good: Experience goods
High Type of Good: Search goods
Low age: < 38.6 (mean of moderator "Age")
High age: >38.6

The effect of type of good on online preference for older people is less than for younger respondents. This means that age as moderator has a weakening effect on the relationship. Age tends to decrease the difference between experience and search goods.

5.6 Ordered Logit Regression as a Robustness Check

As mentioned in the section regarding the assumptions of the regression, the outcomes of the linear multiple regression will be validated by means of an ordered logit regression. The idea is to confirm whether the effect of the independent variables on the use of online shopping remains the same, when, instead of an evenly distributed online shopping scale, a single item of the scale with a 5-point Likert outcome is tested. This approach is used as a robustness check, even though the assumptions of the linear regression were not violated, because the ratio of online and offline shopping appears to differ between the products that were presented to the respondents.

5.6.1 The Methodology

As mentioned in the methodology, questions concerning online or offline purchasing were related to both "search goods" and "experience goods". In this robustness check, the answers on the first question of the questionnaire were analysed. This question consisted of three items regarding the online purchase of experience goods and three items on the online purchase of search goods. While for the main analysis a scale score is calculated using all three items that were used as a dependent variable, an ordered logit regression is subsequently performed with the respondents' answer to only one of these items. The item selected for the analysis, is chosen randomly per respondent, based on the respondent number.

Thereafter, an ordered logit regression has been performed. In this analysis, the dependent variable varied from (1) never to (5) always. The same control and independent variables as in the main multiple regression analysis were used in the model.

5.6.2 The Results

The model fit, based on the Nagelkerke pseudo R^2 is .542. The Nagelkerke's R squared defines the power of explanation of the model (Nagelkerke, 1991).

Furthermore, the outcomes of the ordinal logit regression mainly confirm the results that have been found in the multiple regression. This means specifically that a significant effect has been found for type of good, where higher levels of online shopping were reported for search goods than for experience goods ($b=-7.23$, $p<.001$), and for age, the older a person is, the lower the frequency of online shopping ($b=-.04$, $p=.003$).

Also the interaction effect of type of goods * age was confirmed, (b= .05, p= .009). The results of the main analysis are therefore double-checked and validated. The SPSS output of the ordered logistic regression can be consulted in appendix VII.

For visual clarity, the conceptual model (with rejected and accepted hypotheses) will be shown on the next page.

5.7 Conceptual Model Outcomes

6. Conclusion

The results from the research provide a helpful insight to understand consumers' opinion towards shopping offline and shopping online. The outcomes regarding the hypotheses that were researched will now be discussed. The hypotheses that have been accepted were related to type of goods, visual inspection and age. Also, an evident moderation effect exists between type of good*age.

A clear different channel preference exists among the respondents when it comes to whether a good is an experience good or a search good. In case of a search good, consumers are more likely to buy online. **Search goods** are those products that consumers can search, inspect and compare (search behaviours) prior to the purchasing (Nelson, 1970). Easier said, search goods can relatively easy be assessed without having the good "in hand". This implies that consumers tend more to buy these goods online, resulting in a 1.25 higher score on the 5-point Likert scale.

On the hypothesis related to visual inspection, the research measured a significant negative impact of visual inspection on the willingness to buy online. The higher respondents rated the need for visual inspection, the less preference they had for shopping online. Interesting enough, no significance was found for the variable "holding" in relation to online shopping. It seems that consumers experience a barrier for online shopping if they can't visually inspect the good and see less issues if they cannot hold the good in their hands. This implies that not every sensory attribute has the same impact on the (non) preference for online shopping.

The age of a person plays a significant role in the choice for a preferred channel. The older a person, the less he or she tends to buy goods online. This counts for both type of goods. This is different for younger people, where a clear distinction exists between the type of goods. In addition to their overall more positive attitude towards online channel, they tend to prefer the online channel more for search goods than for experience.

It cannot be concluded that the need for convenience drives consumers towards online shopping. Using a p-value of <. 05, the hypothesis is rejected, although convenience has a positive correlation with a preference to shop online.

Moreover, if a p-value of < .10 was used, a significant effect between convenience and online preference would have been accepted.

A significant relation of possessing a car and preference for shopping offline does not exist. In contrary, people owning a car effectively tend to shop more online than people without a car. It seems that the convenience of a car doesn't help to overcome the burden of taking goods home instead of having them delivered. A possible explanation could be that respondents with a car live more outside city centres and respondents without a car live nearer to city centres and shop facilities. This could implicate that non-car owners tend to shop easier and more offline (around the corner) than car owners, who still need to travel if they want to buy their goods in a physical shop.

No significant effect could be assessed between weight, size, price sensitivity and a preference for online shopping. With regards to a preference for offline shopping, no significant effect was measured for the variables "need for advice" and "leisure shopping". Based on above, it could be discussed whether a research that questions people on their buying behaviour (channel choice) allows respondents to provide answers with some desired behaviour. This phenomenon will be further discussed below.

7. Discussion

7.1 Managerial implication

The research has resulted in some expected and some unexpected outcomes. Both type of outcomes give some insightful information and can be of value for e-tailers as well as retailers. Some hypotheses were inspired by what nowadays is broadly expected as common thinking by consumers, press and possibly as well by entrepreneurs in the commercial world. This means that some conclusions will be seen as confirmation of what was already known or believed, like the fact that older people tend to shop less online. Other information might actually challenge current beliefs, like the research outcome about the impact of owning a car on the channel choice and the outcome that need for advice does not lead consumers to one specific channel (the physical store). Both the expected- and not expected findings from the research might help managers to make better decisions in e-commerce and retailing. The findings generated from the research could lead to the following managerial implications.

Although e-commerce has made a huge step forward during the last decade, resulting in more than 20% of goods being bought from online shops, the potential growth is still bigger than the current share of market. Based on this research e-tailers could consider to implement the advices given below, to accelerate their growth:

- E-commerce seems better positioned to attract younger people when it comes to search goods. On the other hand, younger people still seem to consider offline shopping for buying experience goods. The reasons are evident. Currently, web technology doesn't allow consumers a similar experience as offline. But new technologies, like virtual reality and augmented reality, will help to close the "experience gap" between on- and offline shopping. Two of the most important e-commerce channels online, Google and Facebook, are already testing with new virtual experiences to minimalize the uncertainty of shoppers when buying online. For example: Google distributing 'Google Cardboards' for free is clearly a way to introduce a new experience in online shopping to the world.

- On the other hand, retailers should be aware of the fact that older people tend to prefer to shop offline, possibly due to their lack of knowledge and flexibility to change over to online shopping. But in the next 10-15 years, the next generation of older people will be as comfortable as younger people to shop online. What can retailers do to optimize their

proposition, in order to be and stay attractive for current and future older shoppers. Should they offer private parking facilities or an even better experience than webshops can? Whatever retailers invent, it is clear that only standing still will not be a successful strategy for the future.

This research showed that currently the respondents of this research are still undecided on many aspects that define their channel choice. And maybe, the distinction between both channels is not so completely "black and white". In the end, the "battle" between online and offline might not be a decisive fight. Instead of being either an online e-tailer or an offline retailer, entrepreneurs should consider to connect their offline shops (brick-and-mortar shops) with their online e-commerce shop. How can they create synergy between both worlds and create an 'omnichannel' customer experience, independent of what type of shop the customers visits? One great example in this light is Coolblue, a Dutch online retailer, that started as a pure online player and is expanding the business to brick-and-mortar shops in the big cities to give their customers a unique omnichannel customer experience, both online and offline.

7.2 Limitations

During the implementation of this research some questions came across the table that should been given some thoughts. Could the design of the research be optimized? Were the questions raised in a way that the given answers gave the best possible insight in the consumers behaviour? Below some considerations regarding these topics.

The research has been exposed to respondents only living in the Netherlands. Conclusions should be limited to the specific situation in the Netherlands, although for countries that are more or less comparable with the Netherlands (e.g. Internet penetration, e-commerce development), learnings from this research could be interesting.

By hindsight, instead of measuring the relation between variables and channel choice through a question, respondents should have been exposed to more unambiguous questions. Answers on these kind of questions might have helped to better test the hypotheses. For example, the question on price sensitivity should have been "are you sensitive for price differences?" In addition, the question on leisure shopping should have been formulated as: "Is leisure shopping important to you?"

As mentioned, during this research respondents have been questioned about their behaviour. Although it is expected that respondents have submitted answers that reflect their actual behaviour, it cannot be neglected that some answers might reflect more their desired behaviour than their actual behaviour. As (Bertrand et al, 2001) explained: "Respondents want to avoid looking bad in front of the interviewer". Additional they stated: "A profound problem is that people may often be wrong about their "attitudes". People may not really be good at forecasting their behaviour or understanding why they did what they did". To neutralize the difference between what consumers say and what they actually do, a research method that measures actual consumer behaviour would diminish this possible bias. Below a research design will be proposed that measures real consumer behaviour, and thus solving bias.

7.3 Further research

7.3.1 Multiple country research

As mentioned, this research has helped to understand better how Dutch consumers decide to buy their goods either offline or online. As raised before, to what extend do these findings count for consumers in other countries as well? To answer this question further research in other countries could be considered.

7.3.2 Behaviour and motivational research

Above, it was discussed whether the answers given by respondents, reflected well enough their actual behaviour. A suggestion was made to set up a research that would track actual behaviour instead of indicated behaviour. For example, a research that follows consumers on their consumer journey, both online as offline. As methods to track online behaviour already exists (e.g. Google Analytics), the main challenge is how to track consumers' offline behaviour and to understand their motivations. A possible research set up could be to run one-to-one depth interviews after the respondents have bought a certain good and learn more about their motivations during the consumer journey. Did they search on the web, and why or why not? Did they visit stores and for what reason? What was the main reason for buying the good online or offline? Specifically, the answers on the why will give more in-depth knowledge on what the factors are that influence the preference for a specific channel.

7.3.3 Demographic segmentation

The outcomes from this research give an insight about the "average Dutch" consumer, with some additional information about the impact of age, education and income on their preferred channel choice. Additional research could dive deeper into other demographic differences like, urbanites versus rural, household composition and

This could result in the description of some specific consumer segments like "the young urban professional who has a strong preference for convenience shopping" or "the rural living couple with two kids, who are very sensitive to shop for the lowest price". Like (Lilien & Rangaswamy, 2003) stated: "Effective segmentation is essential for marketing success. And as (Andrews & Currim, 2003) stated: "Segments based on household characteristics can then be examined to determine whether they differ in terms of preferences and purchase behaviours, and if so, products and marketing efforts can be designed and targeted to selected groups".

Once, the consumer segmentation has been executed, and consumer segments are clear both e-tailers and retailers could start to develop specific propositions (e.g. “home delivered at your convenience time” and “take home for the lowest price)” to optimally fulfil the needs of specific consumer segments.

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Appendixes

I: Survey channel preferences

Please indicate whether you buy these products **online**.

	Never	Sometimes	Regularly	Often	Always
Perfume	○	○	○	○	○
Mattress	○	○	○	○	○
Wall paint	○	○	○	○	○
Concert ticket	○	○	○	○	○
Book	○	○	○	○	○
Phone charger	○	○	○	○	○

Please indicate the importance of visual inspection of the below products **before** purchasing it.

	Not important	Slightly important	Moderately important	Very important	Extremely important
Perfume	○	○	○	○	○
Book	○	○	○	○	○
Phone charger	○	○	○	○	○
Wall paint	○	○	○	○	○
Mattress	○	○	○	○	○

Please indicate the importance of feeling and holding the below products **before** purchasing it.

	Not important	Slightly important	Moderately important	Very important	Extremely important
Perfume	○	○	○	○	○
Book	○	○	○	○	○
Phone charger	○	○	○	○	○
Wall paint	○	○	○	○	○
Mattress	○	○	○	○	○

To what extend are brands important to you in the below product categories?

	Not important	Slightly important	Moderately important	Very important	Extremely important
Perfume	○	○	○	○	○
Mattress	○	○	○	○	○
Phone charger	○	○	○	○	○
Wall paint	○	○	○	○	○

When you intend to buy online, does a longer than expected delivery time change your intention to buy online and visit a store instead?

- Never
- Sometimes
- Regularly
- Often
- Always

How important are the below aspects for your decision to buy an article online?

	Not important	Slightly important	Moderately important	Very important	Extremely important
Weight	○	○	○	○	○
Fragility	○	○	○	○	○
Size	○	○	○	○	○

Please indicate whether you agree or disagree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I always compare prices between online stores.	○	○	○	○	○
I believe that I get the best price when I buy online.	○	○	○	○	○

Please indicate whether you agree or disagree with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
By tracking price changes over time, I manage to buy online for the best price.	○	○	○	○	○
By checking price differences between countries, I manage to buy online for the best price.	○	○	○	○	○

Please indicate whether you buy these products online or offline.

	Online	Offline
When I want to spend leisure time to shop, I prefer:	○	○
When I want to socialize with other people, I prefer:	○	○
When I am uncertain about making the right choice, I prefer:	○	○
When I need advice of an expert before making a final choice, I prefer:	○	○

Please indicate whether you agree or disagree with the following statements.

	Never	Sometimes	Regularly	Often	Always
Accessibility to any online shop around the globe is a benefit over physical shops.	○	○	○	○	○
When physical stores are closed, I tend to buy the product online.	○	○	○	○	○

What is your gender?

- Male
- Female

Do you own a car?

- Yes
- No

What is your age?

0 10 20 30 40 50 60 70 80 90 100

What is the highest level of education achieved?

- High school
- Associate degree
- Bachelor's degree
- Master's degree
- Ph. D.

What is the net income for your household per month?

- €0 - €2000
- €2000 - €3000
- €3000 - €4500
- €4500 - €6000
- €6000+
- Not disclosable

II: Descriptive Frequency outputs

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	46	44,2	44,2	44,2
	Female	58	55,8	55,8	100,0
	Total	104	100,0	100,0	

Distribution of gender

What is the highest level of education achieved?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school	13	12,5	12,5	12,5
	Associate degree	6	5,8	5,8	18,3
	Bachelor's degree	38	36,5	36,5	54,8
	Master's degree	45	43,3	43,3	98,1
	Ph. D.	2	1,9	1,9	100,0
	Total	104	100,0	100,0	

Distribution of Education

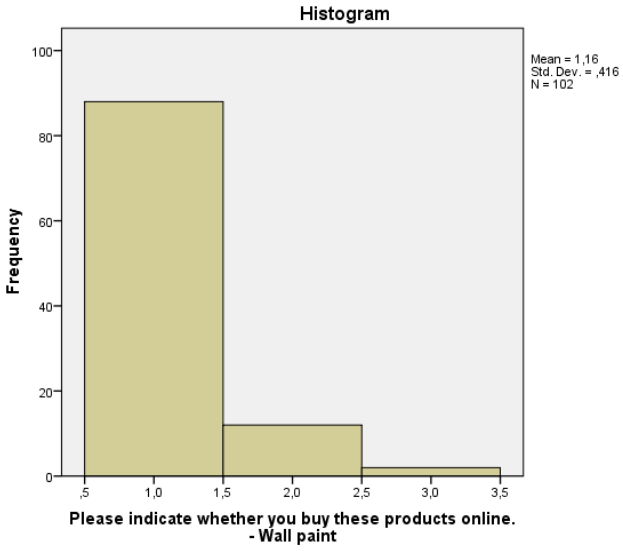
Descriptive Statistics

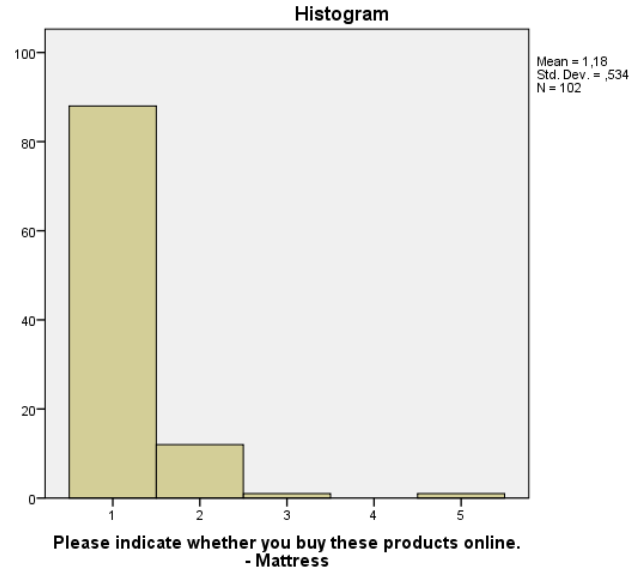
	N	Minimum	Maximum	Mean	Std. Deviation
What is your age? - 1	104	18,00	78,00	38,4135	17,60329
Valid N (listwise)	104				

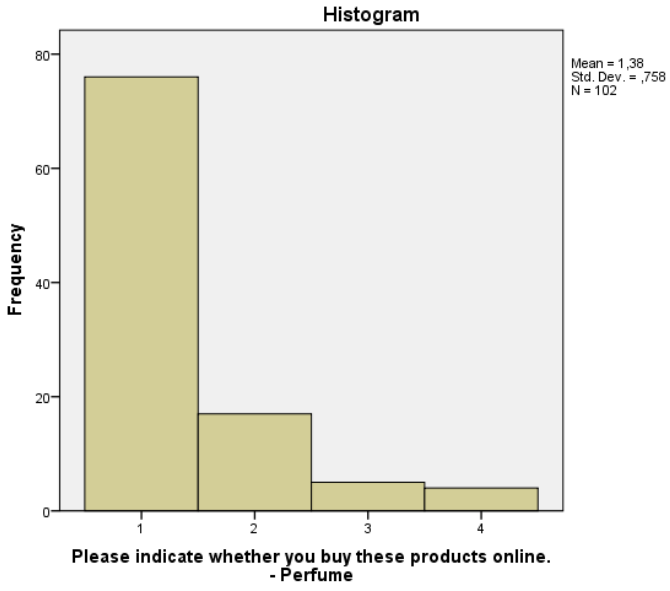
Distribution of Age

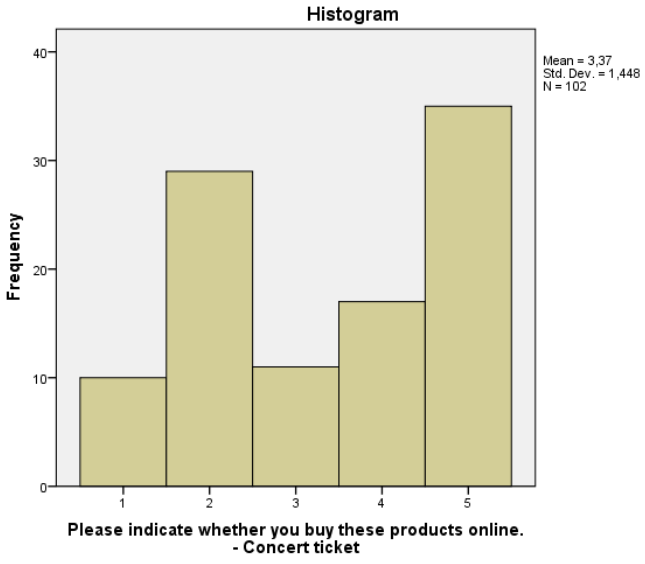
III: Distrubution of online use (histrograms)

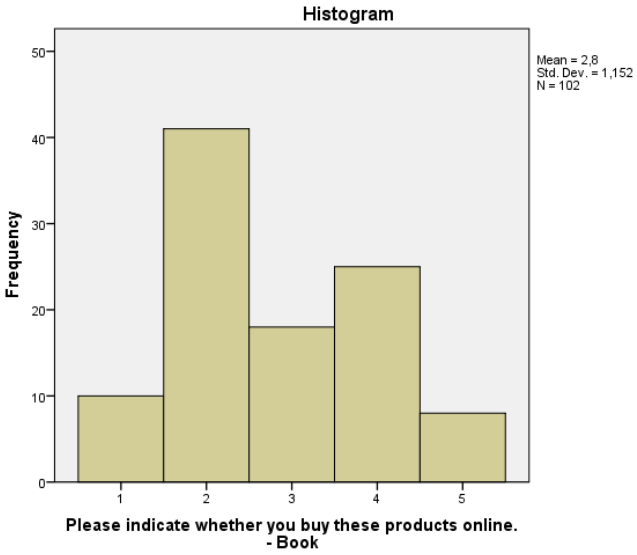
Experience&Search histograms:

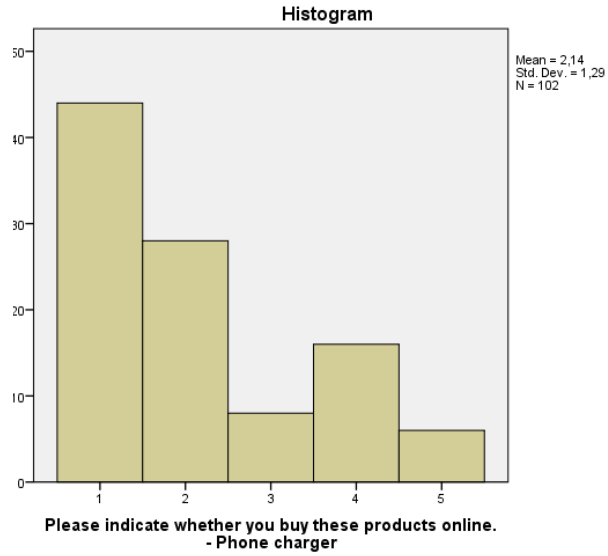




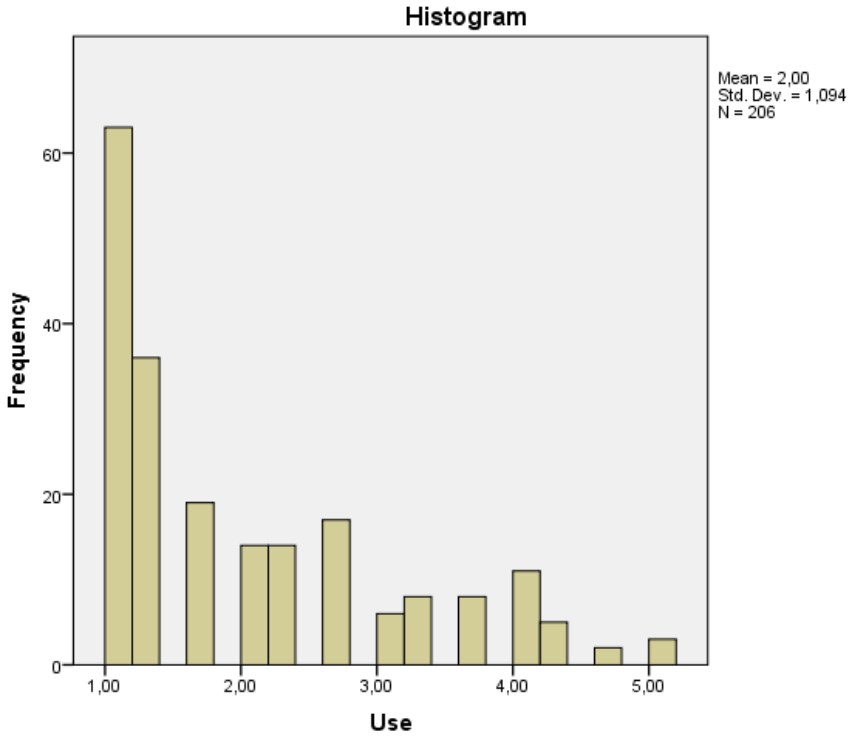








Histrogram Search & Experience Combined



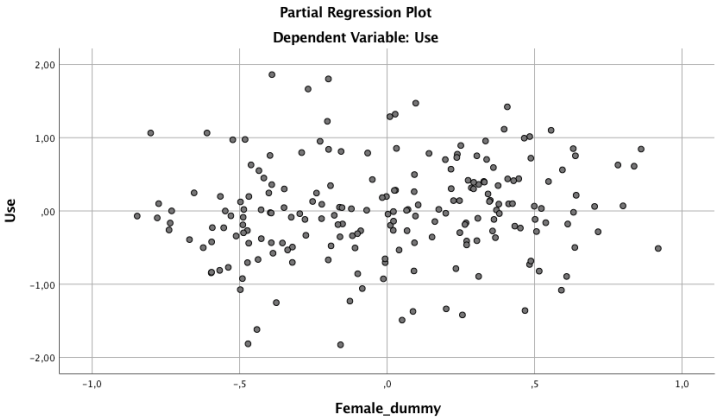
IV: Output tests of normality

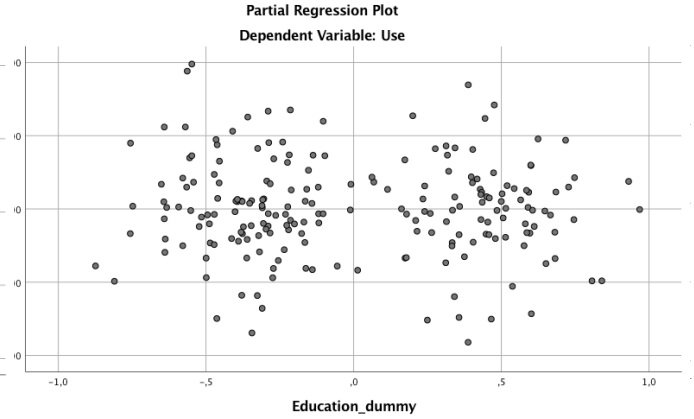
Tests of Normality

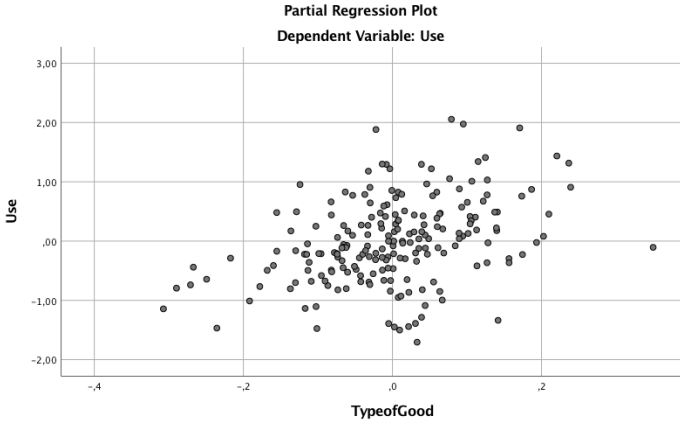
TypeGood		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Experience	Use	,327	103	,000	,668	103	,000
Search	Use	,121	103	,001	,955	103	,001

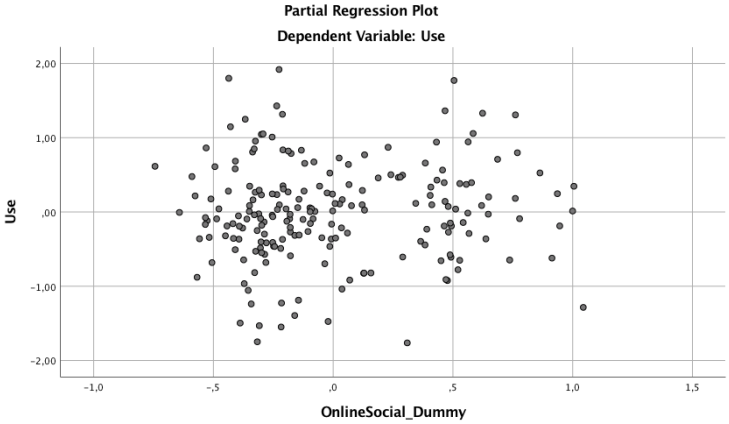
Tests of normality

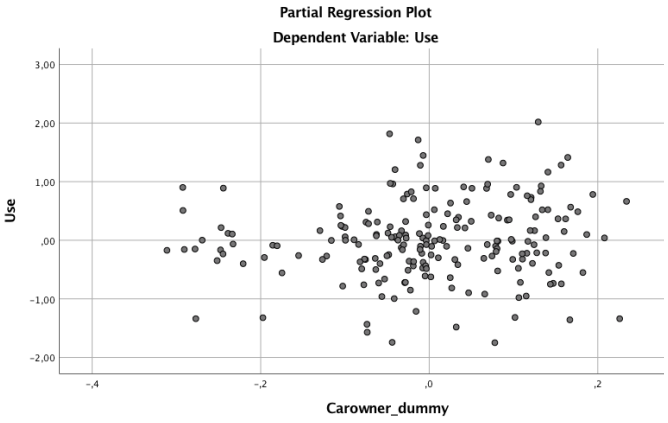
V: Partial Plots & Residual plot

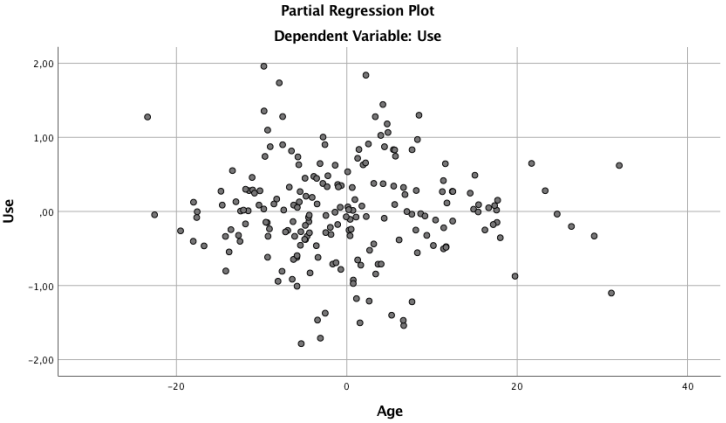


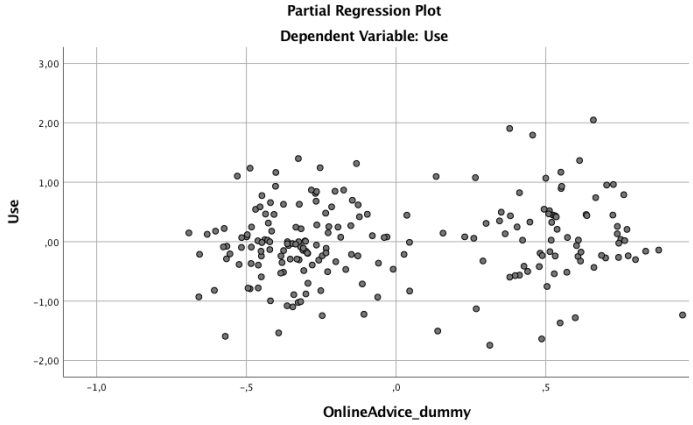


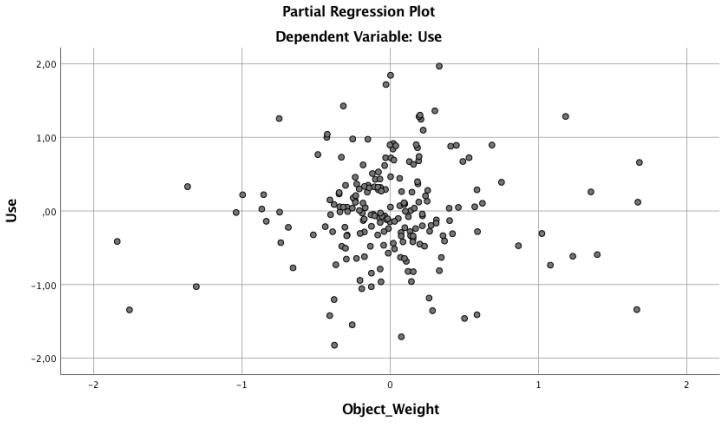


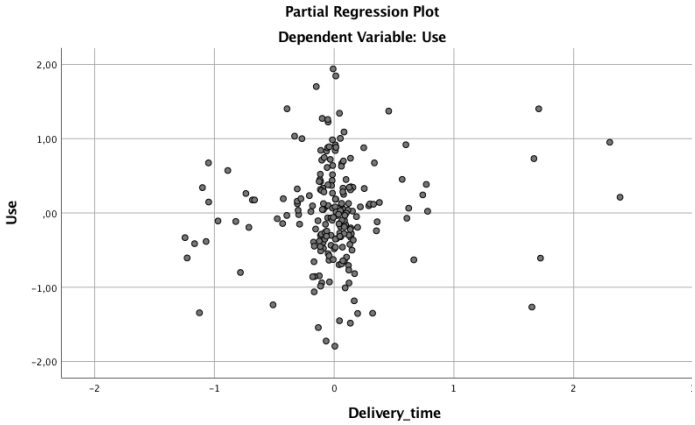


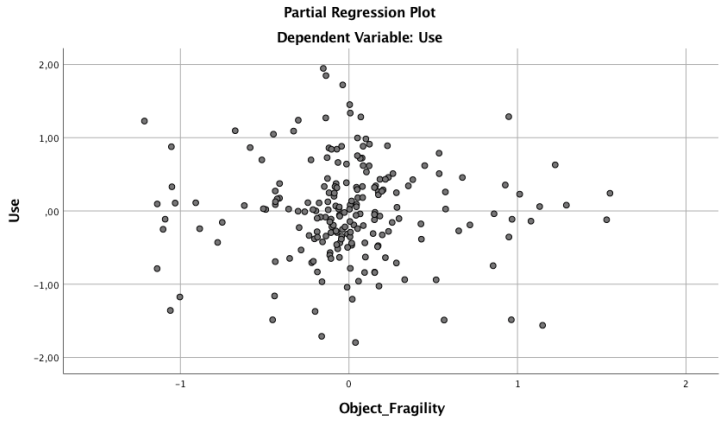


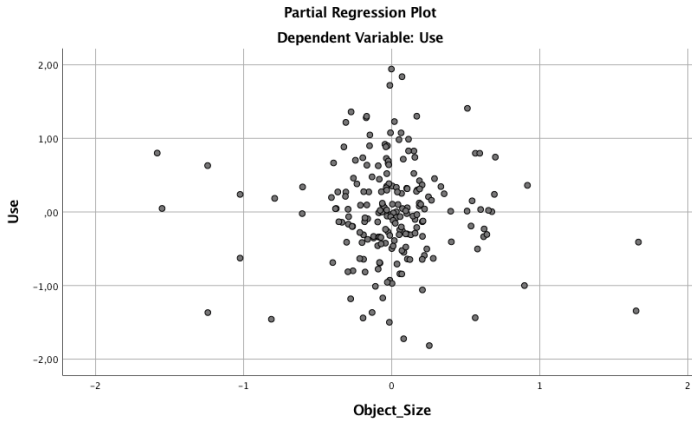


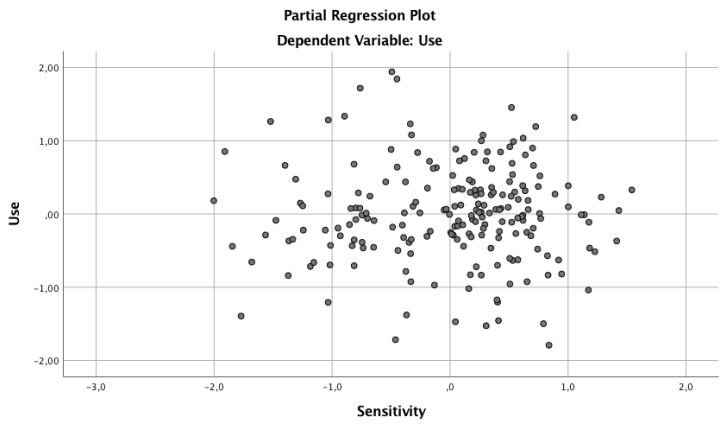

Partial Regression Plot
Dependent Variable: Use
Use
OnlineAdvice_dummy

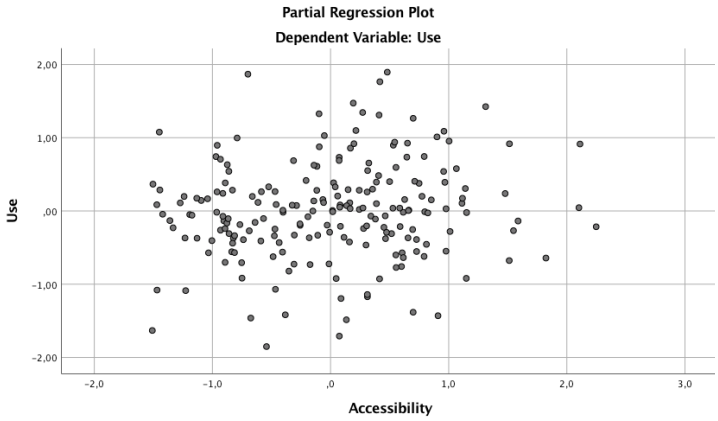

Partial Regression Plot
Dependent Variable: Use
Use
Object_Weight

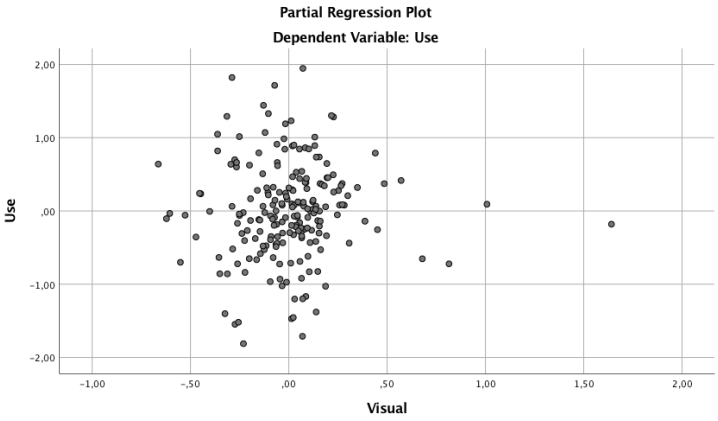

Partial Regression Plot
Dependent Variable: Use
Use
Delivery_time

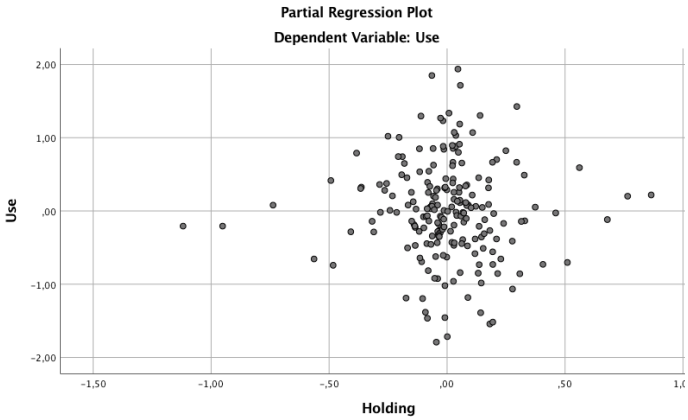

Partial Regression Plot
Dependent Variable: Use
Use
Object_Fragility

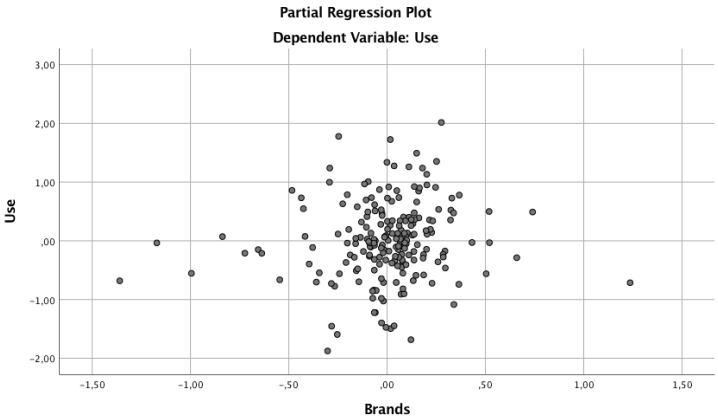

Partial Regression Plot
Dependent Variable: Use
Use
Object_Size

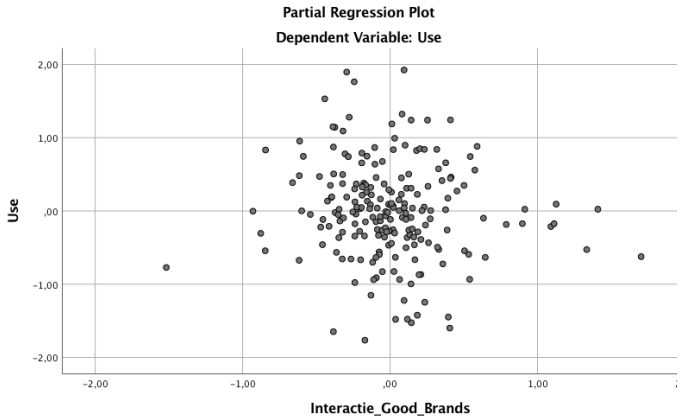

Partial Regression Plot
Dependent Variable: Use
Use
Sensitivity

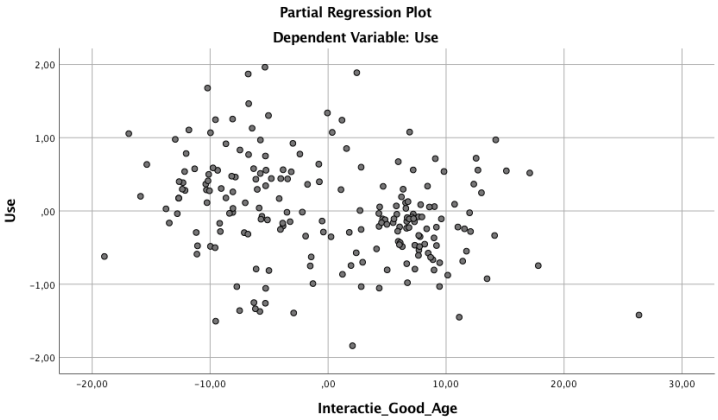

Partial Regression Plot
Dependent Variable: Use
Use
Accessibility

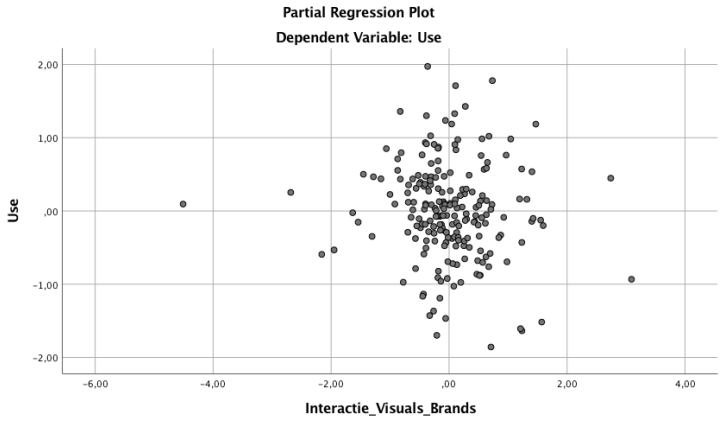

Partial Regression Plot
Dependent Variable: Use
Use
Visual

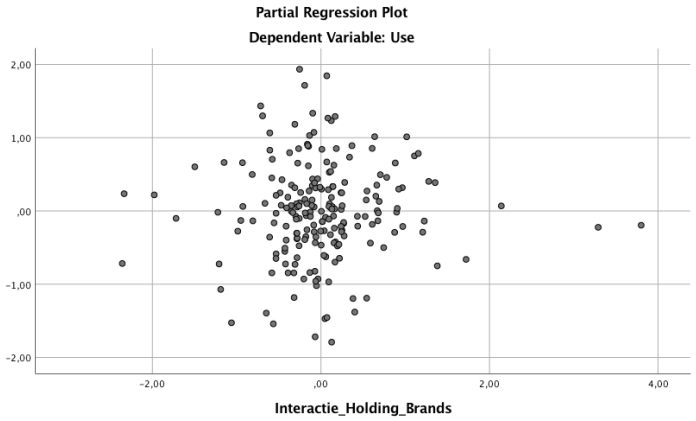

Partial Regression Plot
Dependent Variable: Use
Use
Holding

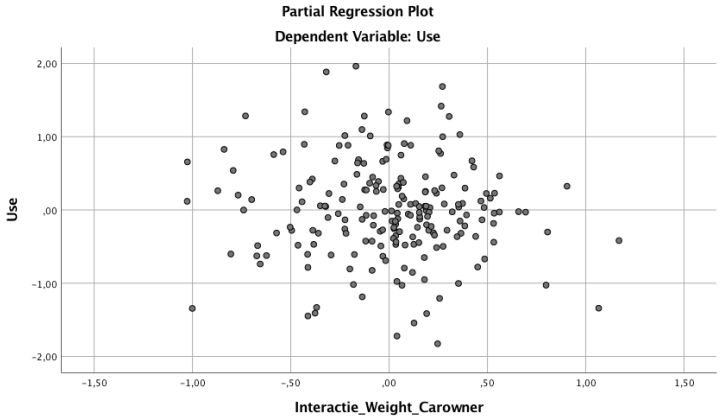

Partial Regression Plot
Dependent Variable: Use
Use
Brands

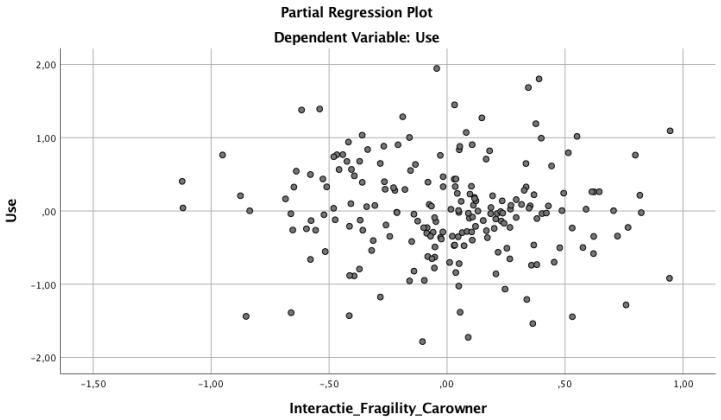

Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Good_Brands

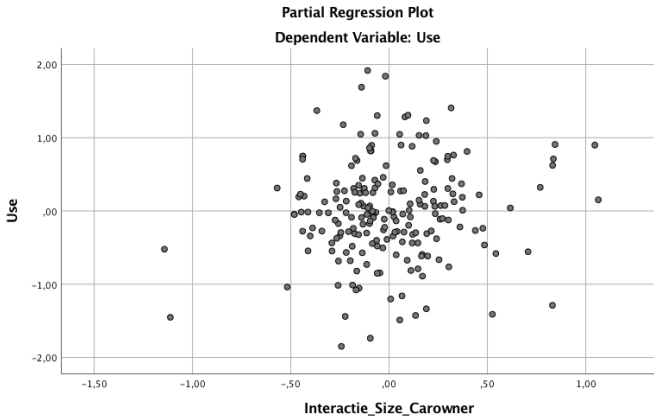

Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Good_Age

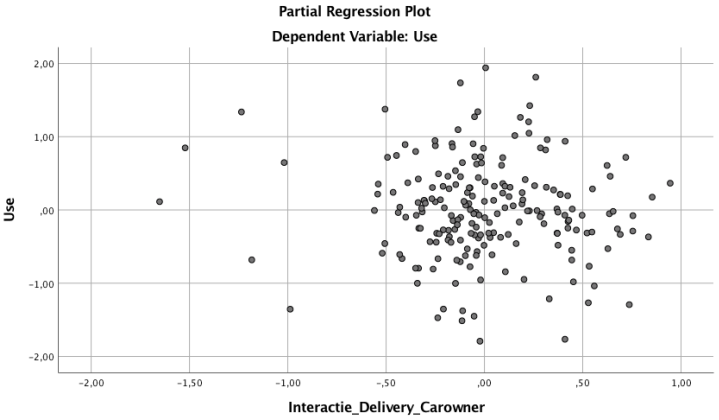

Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Visuals_Brands

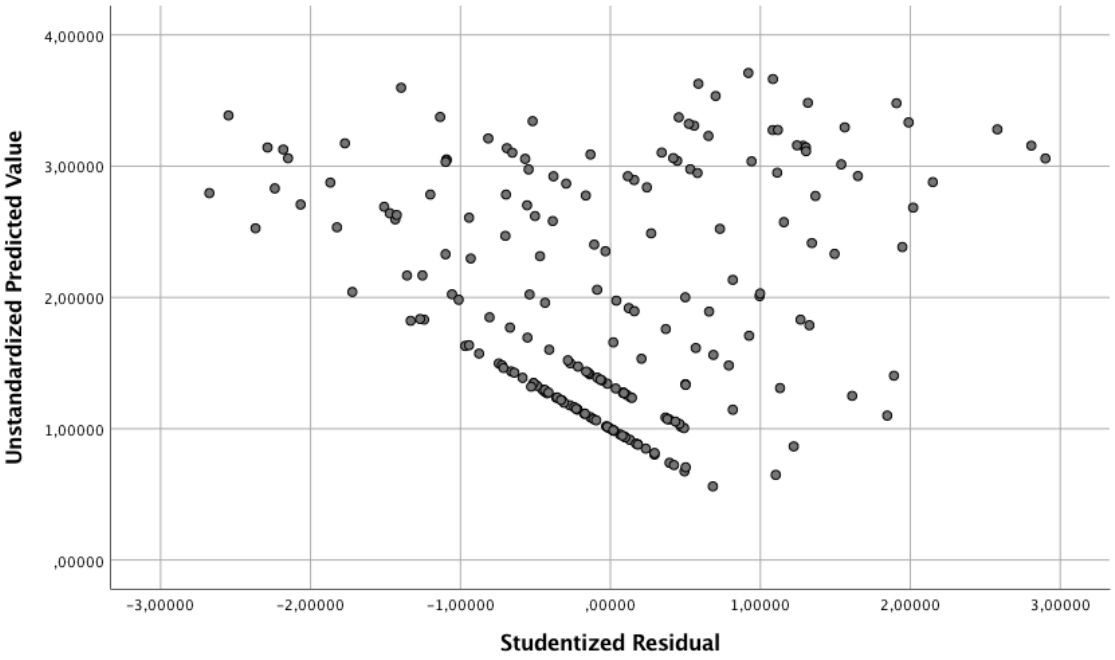

Partial Regression Plot
Dependent Variable: Use
Interactie_Holding_Brands


Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Weight_Carowner


Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Fragility_Carowner


Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Size_Carowner


Partial Regression Plot
Dependent Variable: Use
Use
Interactie_Delivery_Carowner


Unstandardized Predicted Value
4,00000
3,00000
2,00000
1,00000
,00000
-3,00000
-2,00000
-1,00000
,00000
1,00000
2,00000
3,00000
Studentized Residual

VI: Multiple Regression included Income

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	TypeofGood	,721[b]	14,778	,000	,738	1,000	1,000	,588
	OnlineSocial_Dummy	,074[b]	,998	,320	,074	,953	1,049	,577
	OnlineAdvice_dummy	,077[b]	1,039	,300	,077	,955	1,048	,588
	Delivery_time	-,012[b]	-,149	,882	-,011	,866	1,155	,562
	Object_Weight	,001[b]	,013	,989	,001	,872	1,147	,562
	Object_Fragility	-,083[b]	-1,112	,268	-,082	,938	1,066	,576
	Object_Size	-,014[b]	-,184	,854	-,014	,855	1,170	,566
	Sensitivity	,090[b]	1,244	,215	,092	,987	1,013	,584
	Accessibility	,122[b]	1,539	,125	,113	,827	1,210	,535
	Visual	-,590[b]	-9,379	,000	-,570	,892	1,121	,583
	Holding	-,537[b]	-8,475	,000	-,531	,933	1,072	,580
	Brands	-,061[b]	-,817	,415	-,060	,948	1,055	,588
	Interactie_Good_Brands	,623[b]	11,057	,000	,633	,985	1,015	,588
	Interactie_Good_Age	,623[b]	9,818	,000	,587	,851	1,175	,558

	Interactie_Visuals_Brands	-,479[b]	-7,046	,000	-,462	,891	1,123	,584
	Interactie_Holding_Brands	-,434[b]	-6,404	,000	-,428	,928	1,078	,581
	Interactie_Weight_Carowner	-,020[b]	-,169	,866	-,012	,372	2,689	,277
	Interactie_Fragility_Carowner	-,135[b]	-1,140	,256	-,084	,368	2,720	,254
	Interactie_Size_Carowner	,000[b]	-,002	,999	,000	,322	3,105	,238
	Interactie_Delivery_Carowner	-,082[b]	-,576	,565	-,043	,256	3,910	,188
	Interactie_Sensitivity_Income	,022[b]	,084	,933	,006	,077	13,066	,076
2	Interactie_Good_Brands	-,074[c]	-,441	,660	-,034	,080	12,423	,080
	Interactie_Good_Age	-,462[c]	-3,835	,000	-,281	,143	6,997	,137
	Interactie_Visuals_Brands	-,128[c]	-,658	,511	-,050	,059	16,948	,059
	Interactie_Holding_Brands	,107[c]	,517	,606	,040	,052	19,151	,052
	Interactie_Weight_Carowner	-,093[c]	-,712	,477	-,054	,132	7,562	,132
	Interactie_Fragility_Carowner	-,140[c]	-,947	,345	-,072	,103	9,729	,103

	Interactie_Size_Carowner	,045[c]	,302	,763	,023	,100	9,984	,100
	Interactie_Delivery_Carowner	-,087[c]	-,547	,585	-,042	,088	11,386	,085
	Interactie_Sensitivity_Income	-,338[c]	-1,489	,138	-,113	,043	23,224	,043

a. Dependent Variable: Use

b. Predictors in the Model: (Constant), Income_dummy, Education_dummy, Female_dummy, Age, Carowner_dummy

c. Predictors in the Model: (Constant), Income_dummy, Education_dummy, Female_dummy, Age, Carowner_dummy, TypeofGood, Sensitivity, Brands, OnlineSocial_Dummy, OnlineAdvice_dummy, Object_Weight, Delivery_time, Accessibility, Object_Fragility, Holding, Visual, Object_Size

VII: Robustness check Ordered Logic Regression

Parameter Estimates

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[Use_combination = 1,00]	-5,149	1,832	7,895	1	,005	-8,740	-1,557
	[Use_combination = 2,00]	-3,401	1,802	3,563	1	,059	-6,933	,130
	[Use_combination = 3,00]	-2,565	1,791	2,051	1	,152	-6,075	,945
	[Use_combination = 4,00]	-1,188	1,788	,442	1	,506	-4,693	2,316
Location	[Female_dummy=,00]	-,362	,361	1,003	1	,317	-1,069	,346
	[Female_dummy=1,00]	0[a]	.	.	0	.	.	.
	[Education_dummy=,00]	,139	,337	,171	1	,679	-,522	,801
	[Education_dummy=1,00]	0[a]	.	.	0	.	.	.
	[Carowner_dummy=,00]	-,641	1,280	,251	1	,617	-3,150	1,868
	[Carowner_dummy=1,00]	0[a]	.	.	0	.	.	.
	Age	-,043	,014	9,071	1	,003	-,071	-,015
	[TypeOfGoods=1]	-7,233	1,742	17,243	1	,000	-10,647	-3,819
	[TypeOfGoods=2]	0[a]	.	.	0	.	.	.
	[OnlineSocial_Dummy=,00]	-,512	,371	1,905	1	,168	-1,238	,215

[OnlineSocial_Dummy=1, 00]	0[a]	.	.	0	.	.	.
[OnlineAdvice_dummy=,00]	-,725	,336	4,643	1	,031	-1,384	-,066
[OnlineAdvice_dummy=1, 00]	0[a]	.	.	0	.	.	.
Delivery_time	,369	,227	2,645	1	,104	-,076	,814
Object_Weight	-,507	,247	4,222	1	,040	-,990	-,023
Object_Fragility	-,173	,190	,824	1	,364	-,546	,200
Object_Size	,465	,259	3,219	1	,073	-,043	,973
Sensitivity	-,010	,212	,002	1	,963	-,425	,406
Accessibility	,020	,192	,011	1	,916	-,355	,396
Visual	1,137	,598	3,618	1	,050	-,035	2,309
Holding	-1,951	,718	7,381	1	,007	-3,358	-,544
Brands	-,094	,352	,071	1	,790	-,784	,596
[TypeOfGoods=1] * Brands	,812	,429	3,574	1	,059	-,030	1,654
[TypeOfGoods=2] * Brands	0[a]	.	.	0	.	.	.
[TypeOfGoods=1] * Age	,052	,020	6,919	1	,009	,013	,090

[TypeOfGoods=2] * Age	0[a]	.	.	0	.	.	.
Visual * Brands	-,423	,190	4,955	1	,026	-,795	-,051
Holding * Brands	,499	,215	5,394	1	,020	,078	,921
[Carowner_dummy=,00] * Object_Weight	,664	,424	2,454	1	,117	-,167	1,494
[Carowner_dummy=1,00] * Object_Weight	0[a]	.	.	0	.	.	.
[Carowner_dummy=,00] * Object_Size	-,774	,441	3,074	1	,080	-1,639	,091
[Carowner_dummy=1,00] * Object_Size	0[a]	.	.	0	.	.	.
[Carowner_dummy=,00] * Delivery_time	,126	,386	,107	1	,744	-,631	,883
[Carowner_dummy=1,00] * Delivery_time	0[a]	.	.	0	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.