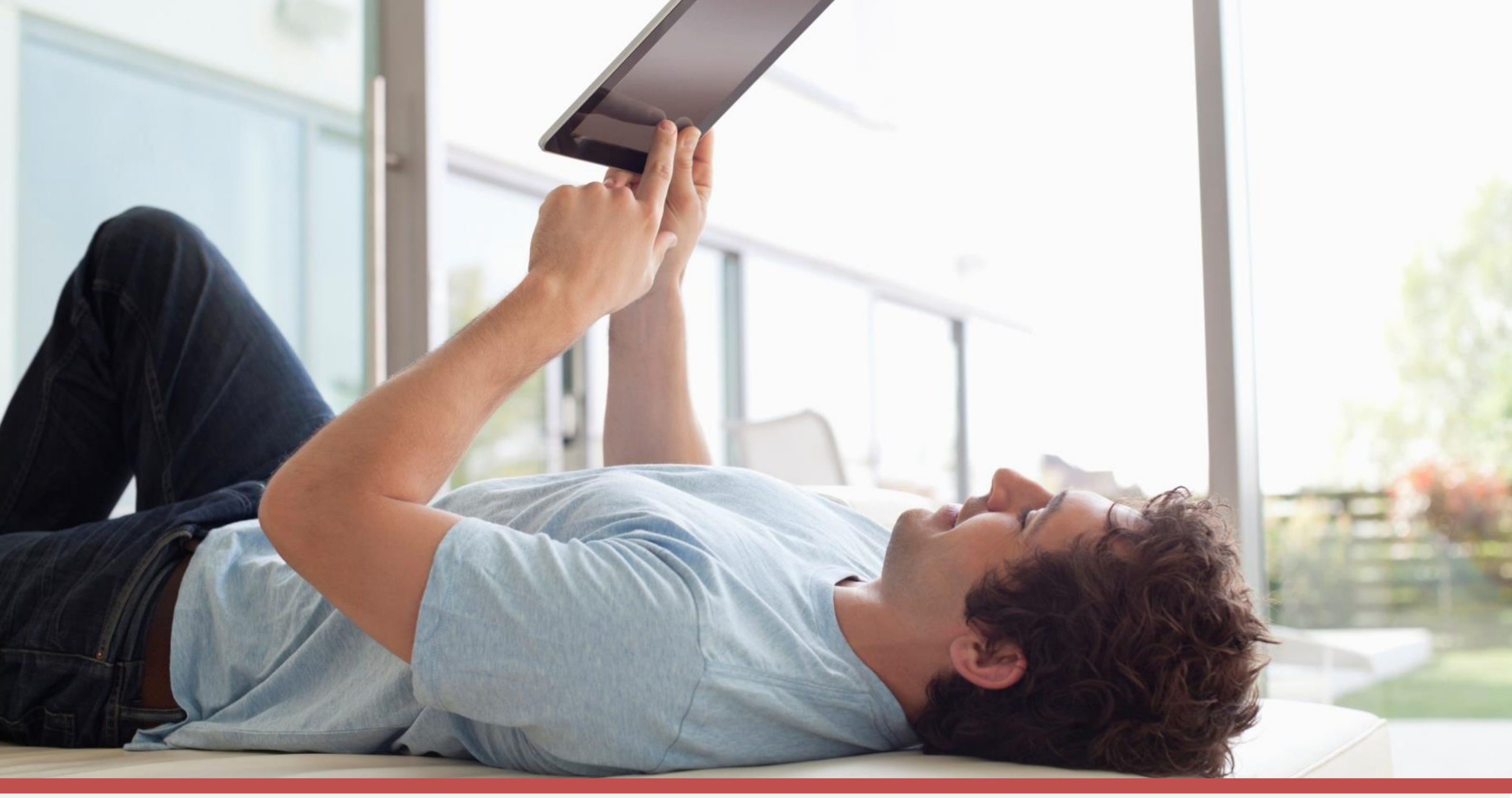

FIND, BUY, SEE

A decision making study on the effect of online and offline shopping on purchase probability of televisions for maximizers and satisficers

Tom Schouten, August 2014

ABSTRACT

Much research has been done for consumer drivers in purchasing goods. Buying processes for low-cost shopping goods like jeans or books are relatively easy. More expensive electronic goods, like a television are considered to have a much more complex buying process with monetary trade-offs and a higher level of risk; most obviously resulting in a more careful approach.

We attempt to understand this approach by analysing the factors influencing purchasing behaviour for televisions, both in online and offline shopping environments. To give this study its unique twist, we incorporate a customer type theory and explore if these drivers are being valued differently across types. This study would be of best value to those seeking insight in purchasing behaviour for expensive electronic goods.

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SUMMARY

Past research proved that many factors contribute to the likelihood that someone buys a particular product. Factors such as transparency amongst products, experience with the product, price sensitivity, service levels, trustworthiness, risk aversion and recommendations. Although we know that many of these factors influence buying behaviour for low-cost convenience goods, this study analyses the effects of these factors on the purchase probability for relatively expensive electronic goods. We take a television as our example product.

In our statistical analysis, we find that from our seven variables we can distil four underlying constructs: decision aid, interstore service, product comparison and risk minimization. These form the basis for our analysis. To give the study some extra depth, we integrate channel choice (online / offline) and Schwartz' customer type theory (maximizers / satisficers) as variables.

We start the study by asking ourselves:

How does the probability to purchase a television differ in online and offline environments for different types of customers?

To sophisticatedly answer this question, we decide to split our study into three sub-analyses. We start by measuring the differences in effect of each construct between the online and offline environment. We find that an online environment has a more positive effect on decision aid and product comparison than an offline environment would have. On the contrary, we see that an offline environment has a more positive effect on interstore service and risk minimization than an online environment would have.

Consequently we measure the types of effect that each construct has on purchase probability. This results in the fact that every construct has a positive effect on purchase probability. No construct influences purchase probability in a negative way. Risk minimization is the most important determinant in both the online and the offline environment. Interstore service seems to be a more important determinant in the offline environment than in the online environment. Decision aid and product comparison, however, seem to be a higher determinant in the online environment than in the offline environment.

Reflecting on our main research question, we find that purchase probability indeed differs between online and offline environments.

We found that the probability to purchase a television online is equally driven (.308) by the extent to which consumers are aided in their purchase process and their tendency to minimize potential risk. Third in line is product comparison (.231). Followed by the interstore service level (.154): the transparency of service levels between stores.

Consumers that purchase their television offline are mainly looking to minimize their risks (.394) and seeking transparency across service levels between stores (.285). These drivers are followed by decision aid (.194) and the easiness to compare products (.117).

We finally integrated the customer type (maximize / satisficer) variable into our analysis to measure which customer type values which construct more important in the probability to purchase a television. Unfortunately we did not find any significant effects. This is highly likely caused by the low amount of data and possible overspecification of the regression models.

Looking at the insignificant effects of the regression model, we see that decision aid and product comparison leads to a higher purchase probability for

satisficers than for maximizers. Interstore service leads to a higher purchase probability for maximizers than for satisficers. Risk minimization, however, proves to be a special case in our study since it leads to a higher purchase probability for satisficers in the online environment, but to a higher purchase probability for maximizers in the offline environment.

During our study we came across some more things that limited us in correctly conducting the study. These limitations are mainly methodological related. We believe that when our limitations are eliminated, we are one step closer to formulating a complete purchase probability model. By enlarging our sample size, doing data collection with observations and increasing the amount of relevant variables in the model, we feel that we could create a refined explanatory model with practical and theoretical generalizability. Retailers could use this refined model to make informed decisions regarding their approach to customers, subsequently leading their ultimate sought balance: creating a pleasant shopping experience for their customers while increasing profit significantly.

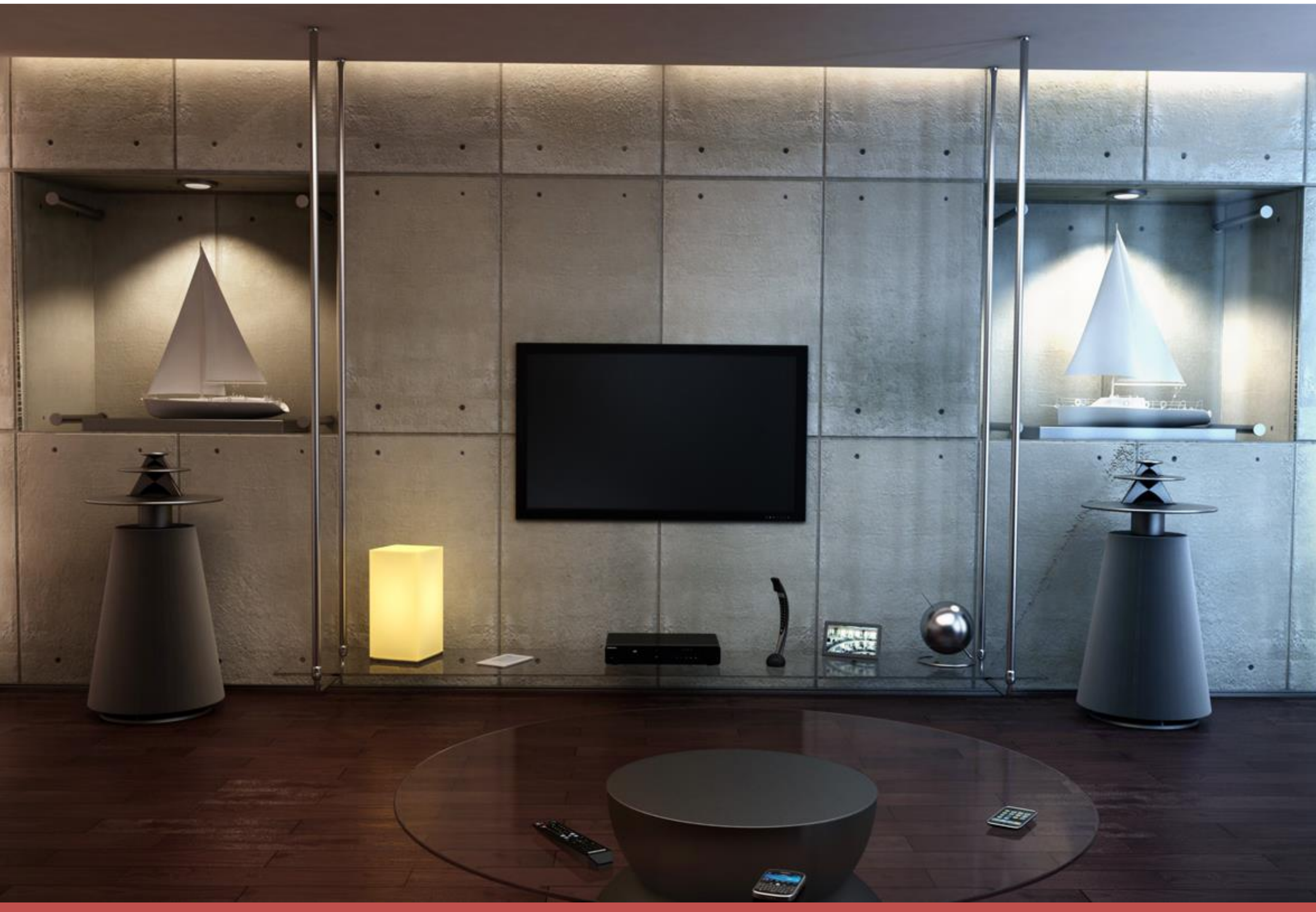


TABLE OF CONTENTS

1 INTRODUCTION

This first chapter briefly introduces the study's topic by providing a sketch which can be seen as the initiative of writing this thesis. After this introduction, we clarify a bit by mentioning the actual purpose of the study, defining the core research question and drawing the outline of the study.

1.1 ONCE UPON A TIME

It is summer 1988. On a beautiful Saturday afternoon John's family gathers together to watch final match of the European Championship football. When the match was about to begin, the television suddenly starts to falter. Some moments later the screen turned black. John and his family were all quite disappointed, so John decided to call his friend Chris to record the match for them. They then, sadly enough, barely managed to entertain themselves with some music, games and drinks.

The next Monday, John and Chris drove the car to the mall to find John a new television. Upon entering the electronics store, a sales representative walked up to them and asked how he could help the two gentlemen. John explained Saturday evening's occurrence. The representative acknowledged John's complaint. He immediately motioned John and Chris to follow him to show them a newly arrived model. "*Model X* is without a doubt your television of choice. It has all the features you could wish for in a decent television", he said.

John had discussed with his friends his intention to buy a new television. They all recommended *model Y* to be a perfect option for him. John decided to trust his friends over the representative and ask the representative to show him *model Y*. "Also an excellent choice", the representative said. John then decided to buy the television.

After carrying the heavy load to the car, John and Chris drove home. Back home John installed the television, connected it to his VHS player and inserted the video tape of the match Chris had recorded for him. John never was such a happy person before.

Several decades had passed since John last bought a television. It was spring 2014, technology had drastically changed. The internet had become a widely used source of information and a life standard for many. John did not have much experience with the internet, so unprepared he made his way to the electronics store where he bought his television 24 years ago. Upon entering the mall, his trusted store has made way for a big electronics super store. Hundreds of different televisions crossed his path. Full HD, OLED, 3D, LCD, LED, Samsung, Philips, Sony, LG. "All those different brands, all those features. Where should I start?!", he thought. "I want to have the television that used to be the *model Y* kind. The one kind for me!"

1.2 PURPOSE OF THE STUDY

In this study we try to explain differences in effect of some variables that are driving purchasing patterns when purchasing electronic goods in an online and offline environment; In this case, a television. We try to identify differences between online and offline shopping habits, followed by estimating a model which predicts probabilities in purchasing a television. This model shall also incorporate customer type as an important variable. Based on this, we seek to find out the differences in purchase probability in online and offline environments for different types of customers. Our main research question is:

"How does the probability to purchase a television differ in online and offline environments for different types of customers?"

1.3 OUTLINE OF THE STUDY

To get more familiar with the topic it is essential to start with a solid review of what is already known. This is crucial to find out which factors mainly drive one's willingness to buy. Chapter 2 therefore forms the very basics of the study by describing important determinants in one's decision making, resulting in a conceptual model and associated hypotheses.

Chapter 3 first fully explains the methodological approach we used. Followed by the statistical analysis to find answers to our hypotheses. Results of the analysis and hypotheses is found in chapter 4.

Chapter 6 then finalizes the study by discussing and implying all results Lastly, limitations of the study are discussed and input for future research is suggested.

2 DETERMINANTS OF PURCHASE PROBABILITY

This chapter forms the very theoretical foundation of the study. Scientific articles, studies and books have been thoroughly reviewed in order to find out which factors actually drive one's shopping behaviour; both online and offline. Moreover, literature has been reviewed to find out fundamental differences between types of customers.

2.1 GENERAL FACTORS INFLUENCING PURCHASE PROBABILITY

Many variables contribute to one's likelihood to purchase an electronic good such as a television. Hence, the amount of variables is far too high and complex to include every single factor into the analysis. This study highlights the most interesting and important drivers in purchase probability for purchasing these goods. The set of variables used in this study consists of *transparency* amongst other products, physical *experience* with the product, *price* sensitivity, *service*, *trustworthiness* of the store, *risk aversion* and *recommendations*.

Since the effect of some variables (e.g. *price* and *trustworthiness*) differs between potential and repeating customers [20], this study considers every respondent to be a potential (new) customer in buying a television from a particular shop.

2.1.1 TRANSPARENCY

Many people are well-known with the use of internet nowadays. Internet skill is not a sufficient determinant of channel choice any longer, it is rather a necessity. Modern lifestyle asks customers to be able to exploit the internet to the maximum. A very welcome side effect is the enormous increase in market transparency. Endless potential to compare amongst product features, prices and delivery times. Something unimaginable only two decades ago. To test whether these benefits of the online environment are applicable to our study, we hypothesise that:

H1 An online environment has a more positive effect on transparency than an offline environment.

Transparency proves to form a means for increased consumer- and business satisfaction in many different industries [1][11][21]. These industries show that transparency has a positive effect on aspects such as customer confidence, trust and customer retention [15]. We are keen to find out if transparency also has a positive effect on purchase probability in our study.

Variable	Our definition
Transparency	The ability to compare products or stores.
Experience	The ability to physically experience (see, touch and test) a product.
Price sensitivity	The extent to which someone is sensitive to a high or low price setting.
Service	The combination of aid during consumer decision making and care after the purchase has been made. (e.g. knowledge and kindness of representatives, stocks, delivery time, return and guarantee regulations).
Trust	The trustworthiness of the store.
Risk aversion	The consumer will to averse uncertainty regarding the outcome of a purchase decision.
Recommendations	Professional and non-professional recommendations for buying a particular product.

Table 1: Our definitions of used variables

H2 Transparency has a positive effect on purchase probability.

2.1.2 EXPERIENCE

Nothing more satisfying than physically experiencing the television you plan to buy, right? Marketing actions like promotions, discounts and commercials often affect how consumers experience products. These might give a distorted image of the product, created in the minds of consumers. No matter how hard marketers try to convince, one part of their persuasion remains untouched: the product itself. People often forget how important the product itself is as a promoter. Physically seeing, touching and testing the product can give the individual a more self-developed image. Often leading to a more satisfying and personal experience. No matter how hard marketers try to influence potential buyers, real product experience is a key determinant in purchasing expensive goods, such as a television [23]. We thus hypothesise that:

H3 Experience has a positive effect on purchase probability.

Unfortunately, an online environment is unable to grant people the ability to really experience the product. It is therefore most likely that product experience has more effect in an offline environment than it would have in an online environment. The statement we hypothesise is then that:

H4 An offline environment has a more positive effect on experience than an online environment.

While we already stated that experience is not really possible in an online environment, it is for this study interesting to see how online buyers deal with the inability to experience the product.

2.1.3 PRICE SENSITIVITY

Although Kim and Gupta [20] conclude that value perception as an overall judgement for decision making is more strongly influenced by non-monetary factors (e.g. risk and trust) than by monetary factors (price) for potential customers, we still believe that price is a key determinant when investigating shopping behaviour for a relatively expensive shopping good like a television. To test this, we hypothesise that:

H5 Price sensitivity has a positive effect on purchase probability.

This should be especially true because in 2013 the Dutch purchasing power declined for the fourth year in a row. Leaving the Dutch with less money to spend. On top of this, the consumer confidence index (CCI) has shown a large negative trend during our period of data collection in 2013 (figure 1). With a negative peak in February of that year (-43).

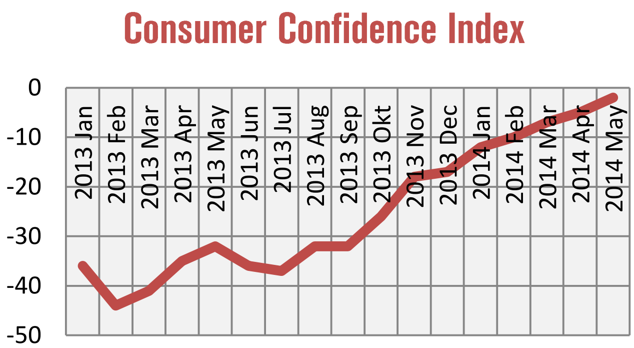


Figure 1: Consumer Confidence Index Netherlands

Our data collection ended in December 2013 where the CCI shows an index of -19. This is an increase of 24 points in only ten months. However, the index is still negative. After our period of data collection the index almost turned positive (-1 in May 2014). The index has not been that high since October 2007 [29]. An expected implication of a negative CCI could be that consumers are less willing to buy expensive goods. Figure 2 on the next page shows this willingness to buy expensive goods trend over the same period as we have shown the CCI in figure 1. Both figures show almost the same trend over this period. This means that consumers become more and more willing to buy these expensive goods.

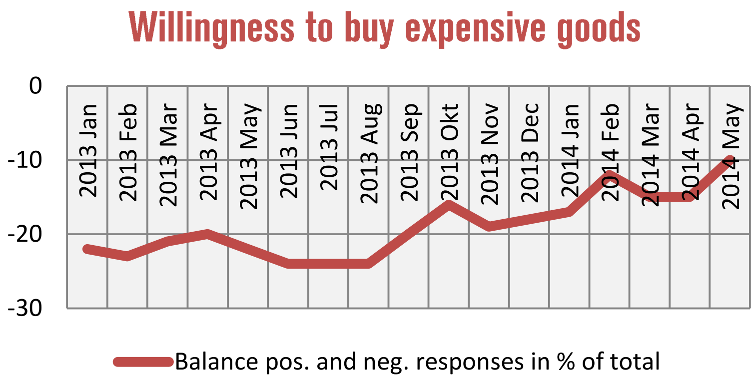


Figure 2: WTBEG trend Netherlands

Price sensitivity could differ across channel. According to Chu et al. [9], households exhibit lower price sensitivities when shopping online than when shopping offline. Reasons are: time pressure, reduction in shopping time, more non-price information and convenience. We hypothesise that:

H6 An offline environment has a more positive effect on price sensitivity than an online environment.

2.1.4 SERVICE

Quite often consumers are willing to settle for imperfect accuracy of their decisions in return for a reduction in effort [2][18]. Because of this trade-off, they frequently choose options that are satisficing to them, but would not be the best if decision costs were zero. That is especially true when the amount of alternatives is larger.

This started to ring alarm bells for many organizations. To minimize decision costs for consumers, companies strive to increase their service level to ease the consumers' decision making process; consequently stimulating them to make the correct decision (hopefully with their store!). According to a 2013 study from Dimensional Research [13], 42% of B2C customers make more purchases with the same store after having a good service experience with a company. On the other hand, 52% indicated that they stop making purchases from that particular store or brand when they have negative service experiences. Decision aid is a major contributor in increasing this service experience. We therefore hypothesise that:

H7 Service has a positive effect on purchase probability.

In an offline environment, sales representatives are key in delivering a good service experience to customers. They are, after all, the 'face' of the company. According to Morgen [23] these representatives must build trust with their customers to convince them to buy something. This is where our variable *service* closely hits one of our other variables: *trustworthiness*. Morgen is confident that the best way to achieve this is to handle ethical; build credibility, present full and clear information, make fair competitive comparisons and give honest advice. Their good work is not only rewarded by an increased likelihood of short term purchases, it highly stimulates consumers to do repeat purchases with the store.

In an online environment, people tend to rely less on company influences, but rather search for products themselves. Often using a two-stage process [17]. At first, the products are scanned and a selection of the most promising alternatives is identified. Then a more in-depth analysis is made by comparing the various products, finally leading to a decision. The presence of interactive decision aid in online environments is becoming more and more a hygiene factor which enables consumers' self-service ability. These interactive decision aids happen in various ways. Product filtering, reviews, recommended products and profiling are just some of the examples that companies use to enhance consumers' online shopping experience, hopefully resulting in an increased turnover and a higher customer satisfaction.

Decision aid is just one part of our definition of service. The other part being aftercare. Aftercare can consist of guarantees and return regulations, insurances and the way customers are being treated by service centers.

Because decision aid (and consequently *service*) is becoming more and more a hygiene factor in an online environment, we hypothesise that:

H8 An offline environment has a more positive effect on service than an online environment.

2.1.5 TRUSTWORTHINESS

Many studies have been conducted for different concepts of trust, ranging from romantic relationships to business-ethical negotiations. In essence, studies agree that trust consists of three major components: uncertainty, personal harm and lack of influence [26]. In terms of retail, trust affects purchase probability and monetary risk taken positively. Studies show that perceived risk partially mediates its influence on intention to buy, rather than just moderating the interaction between trustworthiness and intention to buy [6]. We therefore hypothesise that:

H9 Trustworthiness has a positive effect on purchase probability.

According to Kim [19], consumer trust may be even more important in an online environment than it is in a traditional offline environment. This is mainly because some of the characteristics of internet transactions: they are blind, borderless and not instant. Trust in online environments are mainly focussed on the transaction process, while in traditional offline environments, trust is built by face-to-face personal relationships (as described in paragraph 2.1.4). As Kim states, we hypothesise that:

H10 An online environment has a more positive effect on trustworthiness than an offline environment.

2.1.6 RISK AVERSION

Perceived risk can be defined as *the consumer's level of uncertainty regarding the outcome of a purchase decision* (businessdictionairy.com). We define risk aversion thus as *the consumer's will to averse uncertainty regarding the outcome of a purchase decision*.

Kim [19] proved that perceived risk is one of the stronger determinants of online transactions. It seems to be closely correlating with our previous variable *trustworthiness*. Since trustworthiness is playing an essential role in the buying consideration of almost any shopping good, it is crucial for companies to reduce consumers' perceived risk. We thus hypothesise that:

H11 Risk aversion has a positive effect on purchase probability.

In the case of traditional retail, consumers can actually experience the product and the store. This immediately takes away a great amount of risk. We thus expect that:

H12 An offline environment has a more positive effect on risk aversion than an online environment.

For online purchases, many factors remain unsure. In this case, three types of risk are predominant [3]: product risk, financial risk and information risk. Product risk is the risk related to the product itself, such as defectives. Financial risk is the opportunity cost risk. This is not relating to the product, but relating to the channel (the internet). An example is waiting times. Information risk refers to privacy issues. A great example is that consumers have to provide payment card information in order to finish a transaction. Card fraud could be a catastrophic consequence.

2.1.7 RECOMMENDATIONS

Recommendations often form an important driver for purchasing shopping goods. Ranging from traditional word-of-mouth recommendations to websites dedicated to offer a broad spectrum of reviews and recommendations, this source of information can often be of decisive effect on someone's purchase likelihood.

H13 Recommendations have a positive effect on purchase probability.

Recommendations mainly rely on two sorts of antecedent variables. First, personal characteristics like self-esteem and being concerned for other people [10]. This originates from the concept called *opinion leadership*; people trying to influence consumers' purchasing behaviour. Second, consumers' experience with a particular product or service of the firm. Main determinants are satisfaction [12] and service [14][30]. Both categories of antecedents account for online and offline recommendations. According to Cheema and Papatla [7], compared to hedonic products (books and music), utilitarian products (computers and televisions) show a higher relative importance of information and recommendation in an online setting than in an offline one. We therefore hypothesise that:

H14 An online environment has a more positive effect on recommendations than an offline environment.

2.2 ONLINE VS OFFLINE

The breakdown in online and offline shopping is a crucial part of our study. Since online commerce has drastically proven its presence over the last decade [3], differences in channels cannot be ignored any longer. Channel choice mainly relates to convenience, available time and distance-to-store [8]. But we want to investigate if our variables also have a different impact between channels.

CBRE, the world's largest property and shopping centre management organization, states that despite the fact that online retailing is continuously gaining popularity, consumers do not intend to change their shopping habits radically the coming years. Online retailing is becoming an extend to existing traditional retail. Physical shops seem to remain having an important value in the minds of consumers [16].

Before we can compare both channels, we must be sure that consumers are capable of using both channels. An online environment, for example, requires some sort of skill to succeed in. *Internet skill* has thus been integrated into the study to measure whether consumers actually have the capability to use an online environment as a potential channel of purchase. Luckily 96% of the respondents in the study has the capability of actually doing a purchase on the internet. We can say that our respondents have an equal skill in shopping online as they have offline. A distinction between online and offline place of purchase can thus easily be made because respondents have an almost equal capability of shopping and purchasing in both channels.

2.3 SATISFICERS VS MAXIMIZERS

A very interesting variable added to the study is *customer type*. Different people act differently. One type of customer can value factors different than other types of customers. Many studies have been conducted about defining types of customers. A very interesting one, though a slightly black / white way of defining customer types, is Schwartz' distinction of *satisficers* and *maximizers* [27]. Where satisficers do not worry that much about possible better alternatives, maximizers always strive to get the maximum out of their decision. Nenkov transformed Schwartz' maximization scale into a more practical compact scale

[24]. With this scale customers can be measured more easily on which type they belong to.

Whilst this theory originally implied to relatively cheap shopping goods (jeans) in a sole offline environment, we think it is interesting to see how the theory holds for more expensive goods (televisions) in both offline and online environments. The theory states that the higher someone scores on the maximization scale, the more likely he can be characterised as a maximizer. This means that our variables should theoretically have a higher effect on maximizers than on satisficers. We therefore hypothesise that:

H15 Transparency has a stronger effect on purchase probability for maximizers than for satisficers.

H16 Experience has a stronger effect on purchase probability for maximizers than for satisficers.

H17 Price sensitivity has a stronger effect on purchase probability for maximizers than for satisficers.

H18 Service has a stronger effect on purchase probability for maximizers than for satisficers.

H19 Trust has a stronger effect on purchase probability for maximizers than for satisficers.

H20 Risk aversion has a stronger effect on purchase probability for maximizers than for satisficers.

H21 Recommendations have a stronger effect on purchase probability for maximizers than for satisficers.

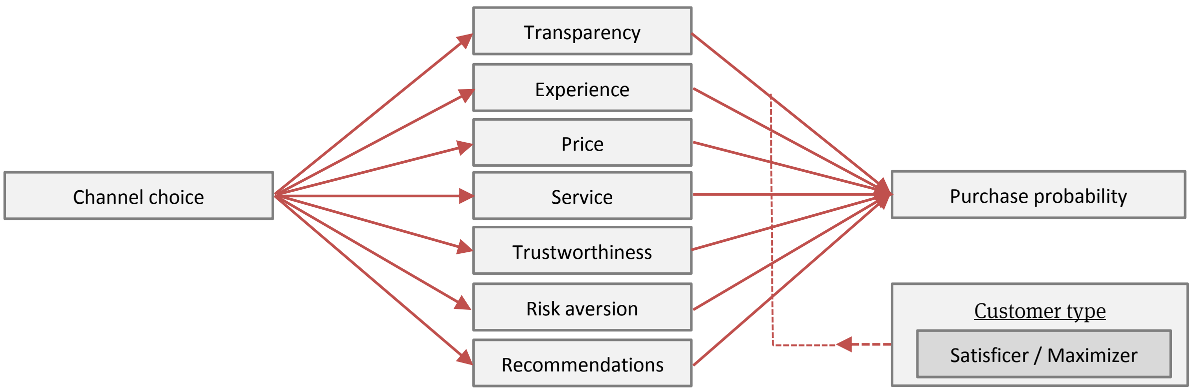
2.4 CONCEPTUAL MODEL

The variables described in the previous paragraphs will form the independent variables of our conceptual model. We have included some demo-graphics (age, income, marital status, education) as control variables to specify consumers' characteristics and include the possibility to compare amongst combinations of different customer types. The conceptual model below forms a graphical representation of all variables.

2.5 THE CONCEPTUAL MODEL EXPLAINED

Research in the previous paragraphs shows that this thesis touches on four major categories.

- The probability that a certain television is bought
  - On a scale from 0% to 100%
- The variables which influence one's probability to purchase the television
  - Transparency
  - Experience
  - Price
  - Service
  - Trustworthiness
  - Risk aversion
  - Recommendations
- The channel in which the product is bought
  - Online
  - Offline
- The type of consumer
  - Satisficer
  - Maximizer



The conceptual model aims to measure if there is a difference in purchase probability for the online and offline sales of televisions. The model states that the impact of vendor channel *(online / offline)* could be different per variable *(transparency, experience, price, service, trustworthiness, risk aversion and recommendations)*, which in turn influences the final probability to purchase a television through that particular channel. This flow will be tested for different types of customers *(satisficers / maximizers)* to check whether the maximization theory holds for more expensive consumer electronic goods.

To be able to analyse the relationships, we formulated three hypotheses per variable. First, we analyse the effect of the channel choice on the variables. When we have covered the relationship between the environment and each variable, we aim to find out whether the variables have a positive effect or a negative effect on the probability to buy a television. The only category that has not yet been integrated into hypotheses is the personal characteristics of the respondents. The third analysis measures the moderating effect of customer type on the relationship between the variables and purchase probability.

2.6 THEORETICAL CONCLUSION

Much is currently known about customers' decision making processes for purchasing consumer goods. As well as the effect of the internet in this. Though many of those research projects limit to theories for less expensive shopping goods, like books or jeans [5], this thesis takes customer decision making to a more complex perspective by using an example of a more expensive shopping good: a television. Assuming this product is being bought less often and has a higher price level, a different decision making strategy is used.

Several factors drive customers' decision making. Literature shows that some factors are found to be key determinants in one's chance to purchase a product. *Trust* and *perceived risk* show strong impacts on online purchasing decision [19]. Consumer disposition to trust, reputation, privacy concerns, security concerns, the information quality of the website, and the company's reputation have strong effects on customers' trust in the website.

Next, *decision aid* (service from sales representatives, online brokers or shopping bots) and *recommendations* (from friends or from online reviews) show influence in one's decision making process [17].

Finally, some variables are added to complete the model: *transparency* amongst products [1] [11] [15] [21], *experience* with the product [22], *price sensitivity* [29] and *internet skill*. These variables are selected based on the difference between online and offline buying. An online environment, for example, often offers more transparency amongst products and shops than an offline environment. An offline environment, on the other hand, offers possibilities to physically see and touch the product, which cannot be done in an online environment. Also price levels differ between online and offline environments. Lastly, one's skill level on the internet could block the likelihood to shop on the internet.

To give this thesis a unique twist, theories on decision making processes are analysed for different *types of consumers* [27]. Consumers characterized as "maximizers" are perfectionists and are always looking for the best deal, whereas "satisficers" have criteria and standards, but are not worried about the possibility that there might be a better alternative. It is likely that each group uses a different decision making strategy.

3 HOW THINGS ARE ADDRESSED

Now that the theoretical background is drawn and the hypotheses have been formulated, we cover the methodological approach and statistical analysis used to find answers to our hypotheses.

3.1 METHODOLOGICAL APPROACH

3.1.1 DATA COLLECTION

Although we are a great fan of measuring customer decision making or customer behaviour through observations, limited time restricted us with a quantitative approach. Conducting a survey was then the most efficient way of collecting data.

In the survey, respondents were first asked to answer some questions regarding shopping and their shopping behaviour in general. The survey was then split in two, first letting respondents answer questions regarding online shopping, and then let them answer questions regarding offline shopping. The survey finished with some general demographic questions to identify respondents.

Through this survey we were able to collect 169 responses from online and offline customers. Unfortunately 32 of them did not fully complete the survey which means these cases cannot be used for the purpose of this study. The remaining 137 responses form the dataset for the analysis. This is a fair amount of responses, knowing that the core purpose of this thesis is to learn how to properly conduct scientific research rather than predicting a completely reliable outcome. Also no incentives were offered for participating in the survey, which might have also caused the small amount of responses.

3.1.2 MEASURES

3.1.2.1 INDEPENDENT VARIABLES

The effects of our independent variables are measured for three categories: a) in a general setting, b) in an offline environment, c) in an online environment. Independent variables in the general setting are measured on a binary scale (yes/no) to get a more black/white impression of how people think about shopping in general and what they like about shopping. For the online and offline environment, independent variables are measured on a 5-point Likert scale and a 10-point scale. Each point on the 5-point scale represents a degree of agreement ranging from "completely disagree" to "completely agree". Each point on the 10-points scale represents influence of a variable on respondents final decision making, ranging from "no influence" to "decisive influence". The large 10-point scale is well suited for comparing influences between online and offline environments because of the possibly higher diversity between answers.

We have included two more independent variables: channel choice and customer type. Channel choice (online / offline) is a binary variable which measures what channel people favour to do the actual purchase of the television. Customer type is measured on a 5-point Likert scale, showing respondents' fit to six questions according to Nenkov's compact maximization scale [24]. The mean of a respondent's answer to the six questions determines whether he can be characterized as a satisficer or a maximizer.

3.1.2.2 DEPENDANT VARIABLES

Our dependent variable *purchase probability* is measured by conducting a factor analysis on all independent variables, followed by a regression analysis.

3.1.2.3 CONTROL VARIABLES

Demographic control variables have been included in the survey to compare amongst groups of respondents and measure differences between them. Included control variables are *gender* (binary), *age*, education, income (ordinal) and *employment status* (nominal).

The survey consists of 52,6% males and 44,5% females with a very even distribution in terms of age, education, employment status and income. A detailed view of the distribution can be found in appendix B. We have identified 47% maximizers, 39% satisficers and 12% neutral respondents. 2% is classified as missing. 31% if our respondents is a typical need-based customer; they only buy things that quickly satisfy their needs. 26% can be characterized as an impulse customer, who are likely to buy products even though they had no initial intention to buy a specific product. 24% is a discount customer; always searching for stores that offer the best deal. 12% is a wandering customer; they tend to shop just for the fun of it, even though they are not necessarily planning to buy anything. Only 3% of our respondents are real loyal customers, customers that will keep coming back to the same store for their purchases. The final 3% is classified as missing.

3.2 FACTOR ANALYSIS

We have conducted a factor analysis to check a) whether there is an unknown underlying construct in our set of variables and b) to narrow down existing variables to get a more clear set. As input for the factor analysis, all independent variables, except *channel choice* and *customer type* are used. The following paragraphs describe the average factor loadings per construct. The full rotated component matrices can be found in appendix C.

3.2.1 OVERALL FACTOR ANALYSIS

Having conducted the factor analysis, our scree plot distinguishes seven major constructs (factors) which can be allocated to the different items in the model; explaining a total variance of 69.88%.

All constructs are loaded by several different items from the survey, explaining the effect of specific variables. These items form the basis for defining constructs for future use in the study. Constructs with an eigenvalue of less than 1 are not being used in the study. The following table shows which variables load on which construct. In fact, more items load on these constructs. However, items that cannot be interpreted clearly are omitted from the final set of items and are thus not being shown in the table below.

Construct #	Loaded by	Avg. score	Initial EV	Rotated EV	Cum. Var. %
1	PS (1x on, 1x off), TRUST (1x on, 1x off), RA (1x on)	5.292	4.463	2.853	21.948
2	TRANSP (1x on), EXP (1x on), SERV (1x on)	3.453	2.044	2.554	41.591
3	TRANSP (1x off), EXP (1x off)	2.635	1.431	1.954	56.622
4	REC (1x off, 1x on), SERV (1x off)	4.627	1.146	1.724	69.880

Table 2: Average factor loadings - overall

3.2.2 FACTOR ANALYSIS PER CHANNEL CHOICE

After the overall factor analysis, we have split the group of respondents and conducted factor analyses separately for those that would buy their television respectively online or offline. By doing this we can analyse the difference in constructs and their loadings for both groups. The upcoming tables show the average factor loadings per construct for both groups of buyers.

3.2.2.1 ONLINE BUYERS

Construct #	Loaded by	Avg. score	Initial EV	Rotated EV	Cum. Var. %
1	TRANSP (1x off), EXP (1x off), PS (1x on)	4.39	3.349	2.452	18.864
2	TRUST (1x on, 1x off), RA (1x on), EXP (1x on)	5.885	2.294	2.410	37.401
3	SERV (1x off), REC (1x on, 1x off), PS (1x off)	5.983	1.817	2.318	55.231
4	TRANSP (1x on), SERV (1x on)	3.285	1.377	1.656	67.973

Table 3: Average factor loadings – segmented for online buyers

3.2.2.2 OFFLINE BUYERS

Construct #	Loaded by	Avg. score	Initial EV	Rotated EV	Cum. Var. %
1	PS (1x on, 1x off), TRUST (1x on, 1x off), RA (1x on)	4.99	4.519	2.837	21.822
2	SERV (1x on), TRANSP (1x on), EXP (1x on)	3.47	1.826	2.779	43.198
3	TRANSP (1x off), EXP (1x off)	2.36	1.569	1.737	56.557
4	REC (1x off), SERV (1x off)	4.22	1.161	1.722	69.801

Table 4: Average factor loadings – segmented for offline buyers

3.2.3 RENAMING CONSTRUCTS

Now that we have identified which items load on which component, we see a great diversity in item loadings. However, we feel that the compositions in the current state are too messy for further analysis. A possible way to make this data more user-friendly is bundle the item loadings and rename their construct. In this paragraph we formulate these new construct names based on the initial sets of item loadings.

Of course, this renaming process has impact on the conceptual model and hypotheses defined earlier. We propose a new conceptual model and new hypotheses which from now on will be used in the study.

3.2.3.1 ONLINE BUYERS

The factor analysis showed us that we have four different sets of item loadings for online buyers. Now we will rename these into four new constructs.

Construct 1 – Product comparison

The first construct shows that offline transparency, offline experience and online price sensitivity are the item loadings. These are all items that have something to do with comparing products or stores. We therefore rename the first construct to *product comparison*.

Construct 2 – Risk minimization

The second construct has items load on it such as online and offline trustworthiness, online risk aversion and online experience. Since all off these items are aimed at reducing consumers' potential risk, we rename this construct to *risk minimization*.

Construct 3 – Decision aid

This construct is loaded by offline service, online and offline recommendations, and offline price sensitivity. The majority of these items are about helping the consumer in making the right decision. This construct could thus best be renamed to *decision aid*.

Construct 4 – Interstore service

The final construct for the online buyers consists of online transparency and online service. When we combine these, the renamed construct could be *interstore service*. We read transparency here as comparison amongst service levels.

3.2.3.2 OFFLINE BUYERS

As for the online buyers, the factor analysis showed us that we also have four different sets of item loadings for offline buyers. We rename these into four constructs.

Construct 1 –Risk minimization

The first construct shows that the following items load on it: online and offline price sensitivity, online and offline trustworthiness, and online risk aversion. This constructs shows some similarities with the second construct for the online buyers. We therefore rename this construct to *risk minimization*.

Construct 2 – Interstore service

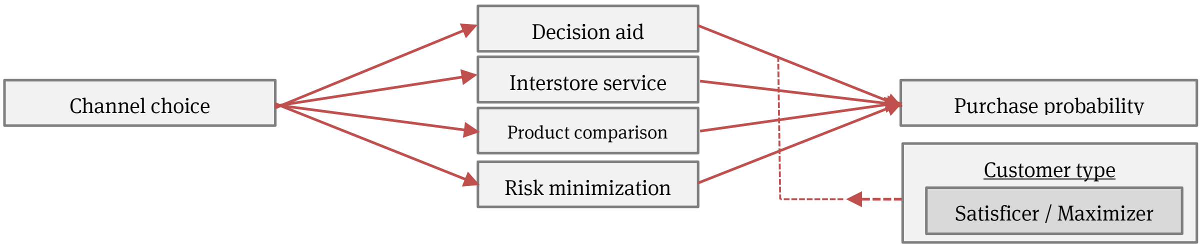
The second construct has item loadings such as online service, online transparency and online experience. These are referring to a comparison amongst service levels of (online) stores. We therefore rename this construct to *interstore service*.

Construct 3 Product comparison

This construct is loaded by offline transparency and offline experience. These items could be interpreted as comparing amongst products. We rename the construct to *product comparison*.

Construct 4 – Decision aid

The final construct for the offline buyers consists of offline recommendations and offline service. Both items refer to aid in one's decision making. We rename the construct thus to *decision aid*.



3.2.3.3 NEW CONCEPTUAL MODEL

Renaming our variables of course has impact on the conceptual model we proposed. On top of this page we displayed the updated conceptual model, this time including all constructs.

3.2.3.4 NEW HYPOTHESES

The updated conceptual model implies that our initial variables and associating hypotheses are no longer valid. To keep the same scientific approach of our study, we decided to reformulate our hypotheses so that they match the new conceptual model. We phrased our hypotheses based on the combination of item loadings per construct, derived from the associating initial hypotheses.

H1u An offline environment has a more positive effect on decision aid than an online environment

H2u An offline environment has a more positive effect on interstore service than an online environment

H3u An offline environment has a more positive effect on product comparison than an online environment

H4u An offline environment has a more positive effect on risk minimization than an online environment

H5u Decision aid has a positive effect on purchase probability.

H6u Interstore service has a positive effect on purchase probability.

H7u Product comparison has a positive effect on purchase probability.

H8u Risk minimization has a positive effect on purchase probability.

H9u Decision aid has a more positive effect on purchase probability for maximizers than for satisficers.

H10u Interstore service has a more positive effect on purchase probability for maximizers than for satisficers.

H11u Product comparison has a more positive effect on purchase probability for maximizers than for satisficers.

H12u Risk minimization has a more positive effect on purchase probability for maximizers than for satisficers.

These new constructs and twelve hypotheses will be used for further analysis of the dataset.

3.3 CRONBACH'S ALPHA

To check for consistency within the constructs, we calculate Cronbach's Alpha scores. Cronbach's Alpha calculates the percentage of the variability in the construct to indicate what's called "true score" variance, or internally consistent reliable variance.

Table 5 shows Cronbach's Alpha and the cumulated standard deviation for all items in the construct.

Construct #	Online buyers α	Online buyers σ	Offline buyers α	Offline buyers σ
1	.727	4.861	.818	12.546
2	.609	6.415	.818	6.083
3	.724	7.231	.719	2.346
4	.579	2.441	.581	4.235

Table 5: Cronbach's Alpha per construct

An acceptable criterion for the consistency level is not clearly set at the moment. Some studies show a Cronbach's Alpa score of .70 is acceptable for internal consistency [25]. Other studies demand an even higher score.

By using the .70 Cronbach's Alpha criterion, we can conclude that the items in construct 1 and 3 contain sufficient internal consistency. Construct 2 only shows internal consistency for the offline buyers. The items for online buyers also show a high level of internal consistency, yet not sufficient to meet the acceptance criterion. Finally construct 4 has the lowest internal consistency score of all constructs. For both online and offline buyers the scores do not meet the suggested acceptance level.

However, we still decide to include construct 4 in our analysis for a more complete variance of the study's results. Excluding construct 4 from the study would lead to a reduction in variance of almost 15%.

3.4 REGRESSION ANALYSIS

Now that we have found the constructs underlying our initial set of variables, we can use these as input for our regression analysis. The regression analysis provides estimates of the effect of each construct on purchase probability. We use our constructs as independent variables in our analysis. Purchase probability (PURprob) being the dependent variable.

The regression model can be formulated as:

$$\hat{y} = \beta_0 + \beta_1\text{Construct1} + \beta_2\text{Construct2} + \beta_3\text{Construct3} + \beta_4\text{Construct4}$$

For online buyers this becomes:

$$\text{PURprob}_{\text{online}} = \beta_0 + \beta_1\text{product comparison} + \beta_2\text{risk minimization} + \beta_3\text{decision aid} + \beta_4\text{interstore service}$$

The regression model for offline buyers then is:

$$\text{PURprob}_{\text{offline}} = \beta_0 + \beta_1\text{risk minimization} + \beta_2\text{interstore service} + \beta_3\text{ product comparison} + \beta_4\text{decision aid}$$

By conducting a linear regression analysis in SPSS, we are able to estimate the regression coefficients β_0 to β_4. Table 6 shows all the (unstandardized) B-values for both the online and offline model.

Coefficient	Online model	Offline model
B_0	-1,05167610731094E-16	.033
B_1	.231	.394
B_2	.308	.285
B_3	.308	.117
B_4	.154	.194

Table 6: Regression coefficients

The full models for online and offline then become:

$$\text{PURprob}_{\text{online}} = -1{,}05167610731094\text{E-}16 + .231 * \text{product comparison} + .308 * \text{risk minimization} + .308 * \text{decision aid} + .154 * \text{interstore service}$$

$$\text{PURprob}_{\text{offline}} = 0.033 + .394 * \text{risk minimization} + .285 * \text{interstore service} + .117 \text{ product comparison} + .194 * \text{decision aid}$$

3.4.1 UNDERSTANDING THE MODELS

The models predict the effect of the formulated constructs on purchase probability. The coefficients simply indicate what happens to the purchase probability when the construct associated to the coefficient increases with one unit. For example, if risk minimization in the offline situation increases with one unit, the purchase probability for offline buyers would increase by .394 (or 3.94%). Should all offline constructs be valued with 0 (the lowest possible), the purchase probability would still be 0.33%, because of the intercept (β_0). Should all offline constructs be valued with 10 (the highest possible), the purchase probability would be 10.33 (or 103.3%).

3.4.2 INTERPRETING THE MODELS

Now that we know we can calculate purchase probabilities with our models, let's dive a bit deeper into the effects of the various constructs.

$PURprob_{online}$ = -1,05167610731094E-16 + .231 * product comparison + .308 * risk minimization + .308 * decision aid + .154 * interstore service

$PURprob_{offline}$ = 0.033 + .394 * risk minimization + .285 * interstore service + .117 product comparison + .194 * decision aid

We see that both models use the same constructs. However, the effect of these constructs differ per environment. Product comparison has a greater effect (+1.14% / unit) for online buyers than it has on offline buyers. The same goes for decision aid (+1.14% / unit). On the other hand, risk minimization and interstore service have greater effect on offline buyers than it would have on online buyers. Respectively a +0.86% and +1.31% per unit increase.

Risk minimization and decision aid form the largest determinants for purchase probability for online buyers, followed by respectively product comparison and interstore service. The greatest determinant in estimating purchase probability for offline buyers is risk minimization, followed by respectively interstore service, decision aid and product comparison. This structure is visualized in table 7.

	Online buyers		Offline buyers	
1	Risk minimization	.308	Risk minimization	.394
2	Decision aid	.308	Interstore service	.285
3	Product comparison	.231	Decision aid	.194
4	Interstore service	.154	Product comparison	.117

Table 7: Determinants of purchase probability

Important to conclude is that every construct has a positive effect on purchase probability, which means that every increase in unit leads to an increase in purchase probability. This is true for online and offline buyers.

3.5 INTEGRATING THE MAXIMIZATION SCALE

By integrating the maximization scale as a moderating variable between our constructs and purchase probability, we can estimate the potential differences in effect of each construct on purchase probability between maximizers and satisficers. We basically extend the current regression models with the maximization scale (MAXSAT[1]) using a product of the constructs and the maximization scale. This leads to the following model.

$$\hat{y} = \beta_0 + \beta_1 Construct1 + \beta_2 Construct2 + \beta_3 Construct3 + \beta_4 Construct4 + \beta_5 MAXSAT + \beta_6 Construct1 * MAXSAT + \beta_7 Construct2 * MAXSAT + \beta_8 Construct3 * MAXSAT + \beta_9 Construct4 * MAXSAT$$

For online buyers this becomes:

$PURprob_{online}$ = β_0 + $\beta_1$risk minimization + $\beta_2$decision aid + $\beta_3$product comparison + $\beta_4$interstore service + β_5MAXSAT+ $\beta_6$risk minimization * MAXSAT+

[1] MAXSAT is a nominal variable with three values: satisficer, neutral and maximizer.

$\beta_7$decision aid * MAXSAT + $\beta_8$product comparison * MAXSAT + $\beta_9$interstore service * MAXSAT

The regression model for offline buyers then is:

$PURprob_{offline}$ = β_0 + $\beta_1$risk minimization + $\beta_2$interstore service+ $\beta_3$decision aid + $\beta_4$product comparison + β_5MAXSAT+ $\beta_6$risk minimization * MAXSAT+ $\beta_7$interstore service * MAXSAT + $\beta_8$decision aid * MAXSAT + $\beta_9$product comparison * MAXSAT

By conducting a linear regression in SPSS, we are able to reveal the missing regression coefficients β_0 to β_9. The following table shows all B-values for the online and offline model.

Coefficient	Online model	Offline model
B_0	-1,567E-14	.109
B_1	.231	.396
B_2	.308	.226
B_3	.308	.139
B_4	.154	.216
B_5	5,635E-15	-.043
B_6	-3,107E-16	8,000E-05
B_7	-7,585E-16	.023
B_8	-4,437E-16	-.005
B_9	7,694E-16	-.008

Table 8: Regression coefficients (incl. moderators)

As we see in the table, many coefficients show such a low value that it does not contribute much to the model. This is likely caused by overspecification of the model. There are very few respondents in the analysis (online: n=28) to properly estimate the model outcome. We are thus unable to draw a conclusion based on the found values. Also, β_5 to β_9 are not significant at a level of .05. We can say that no significant moderating effect is found. Although β_5 to β_9 do not show a significant effect on purchase probability, we decided to continue explaining the model for demonstration purposes.

The full models for online and offline would be:

$PURprob_{online}$ = -1,567E-14 + .231 * risk minimization + .308 * decision aid + .308 * product comparison + .154 * interstore service + 5,635E-15 * MAXSAT – 3,107E-16 * risk minimization * MAXSAT – 7,585E-16 * decision aid * MAXSAT – 4,437E-16 * product comparison * MAXSAT + 7,694E-16 * interstore service * MAXSAT

$PURprob_{offline}$ = .109 + .396 * risk minimization + .226 * interstore service + .139 * decision aid + .216 * product comparison – .043 * MAXSAT + 8,000E-05 * risk minimization * MAXSAT+ .023 * interstore service * MAXSAT – .005 * decision aid * MAXSAT – .008 product comparison * MAXSAT

3.5.1 UNDERSTANDING THE MODELS

In extend to predicting the effect of the formulated constructs on purchase probability, this time they also predict the effect of the maximization theory in explaining purchase probability. For example, β_1 measures the main effect of risk minimization on purchase probability ceteris paribus. B_6 then measures the moderating effect of the maximization theory on risk minimization in explaining purchase probability. Again, ceteris paribus.

Moderator	Online model	Offline model
Risk min. * MAXSAT	-3,107E-16	8,000E-05
Dec. aid * MAXSAT	-7,585E-16	-.005
Prod. Comp. * MAXSAT	-4,437E-16	-.008
Int.stre serv. * MAXSAT	7,694E-16	.023

Table 9: Effects of moderators (classified)

If coefficients for moderating effects have a positive value, the particular construct has a stronger effect on purchase probability for maximizers than it would have for satisficers. Should the coefficient have a negative value, the associated construct has a stronger effect on purchase probability for satisficers than it would have for maximizers.

3.5.2 INTERPRETING THE MODELS

As we can see in table 8, β_1 to β_4 estimate that the individual constructs have a positive effect on purchase probability in general. But since β_5 to β_9 do not show a significant effect on purchase probability, we cannot draw a conclusion for the moderating effect of the maximization scale on purchase probability.

4 RESULTS OF THE ANALYSES

Now that the statistical analysis has been done in chapter three, we now summarize its results by connecting the findings to our set hypotheses. This chapter provides answers to all three analysis parts of our study.

4.1 RESULTS OF ANALYSIS 1

	Transparency	Experience	Recommendations	Service	Trustworthiness	Price sensitivity	Risk aversion
Online	29,6%	39,2%	47,8%	34,8%	60,1%	49,4%	43,4%
Offline	25,3%	27,4%	47,0%	44,0%	58,5%	53,2%	-
δ	**4,3%**	**11,8%**	**0,8%**	**-9,2%**	**1,6%**	**-3,8%**	**-**

Table 10: Effect of variables – online vs. offline

This first analysis aims at measuring the difference in the effect of our variables between the online and offline environment. The associated hypotheses are formulated in chapter 3.1. However, since we decided to reformulate our hypotheses to match our bundled constructs, this chapter provides results for both our initial and our updated hypotheses.

4.1.1.1 INITIAL HYPOTHESES

The survey is designed in such a way that for both environmental situations it measures the individual effect of each variable on purchase probability. By comparing

these values, we can estimate which environment shows the highest effect on each variable. This answers the hypotheses of our first analysis and our first set of hypotheses. At this point of time, we had not yet bundled the original variables into constructs, so results of this analysis reflect the initial variables.

Table 10 implies that negative delta values show that a variable has a higher effect in the offline environment than it would have in the online environment. On the contrary, positive delta values indicate that the variable is more effective in an online environment than in an offline environment. We can conclude that *transparency*, *experience*, *recommendations* and *trust-worthiness* have a higher effect in an online environment than in an offline environment. *Service* and *price sensitivity*, however, have more effect in an offline environment than in an online environment. We may thus conclude that only H4 should be rejected.

H4 ~~An offline environment has a more positive effect on experience than an online environment.~~

An important implication that arose is that unfortunately no question has been included in the survey regarding risk aversion in the offline environment. We were therefore unable to compare the difference between risk aversion in the online environment and risk aversion in the offline environment.

4.1.2 UPDATED HYPOTHESES

Halfway our analysis in chapter four, we measured the effects of the bundled constructs per environment on purchase probability. These updated hypotheses are:

H1u An offline environment has a more positive effect on decision aid than an online environment

H2u An offline environment has a more positive effect on interstore service than an online environment

H3u An offline environment has a more positive effect on product comparison than an online environment

H4u An offline environment has a more positive effect on risk minimization than an online environment

To measure the difference in effect for online and offline environments, table 7 in chapter 3.4.2 reflects the strength of each construct's effect on purchase probability. For measuring our hypotheses, we are interested in which environment the associated coefficient is highest.

Table 7 shows us that *decision aid* has a higher position on the determinant list for online buyers and a much higher coefficient. We may conclude that H1u should be rejected.

~~H1u An offline environment has a more positive effect on decision aid than an online environment~~

Interstore service has a much higher position and coefficient score in the offline environment than in the online environment. H2u is supported.

H2u An offline environment has a more positive effect on interstore service than an online environment

Product comparison shows a higher determinant position and coefficient score in the online environment than in the offline environment. We can say that H3u should be rejected.

~~H3u An offline environment has a more positive effect on product comparison than an online environment~~

We can see that risk minimization is the highest determinant in both environments, but it shows the highest coefficient for offline buyers. Although risk minimization is the highest determinant in both environments, H1u should be supported because of the higher score in the offline environment.

H4u An offline environment has a more positive effect on risk minimization than an online environment

4.2 RESULTS OF ANALYSIS 2

In our second analysis we try to measure the type of effect (positive/negative) of our variables on purchase probability. As part of the process in conducting our regression analysis, we found out that our initial variables could be narrowed down and bundled in new variables, or constructs. The four major constructs (decision aid, interstore service, product comparison and risk minimization) replace the initial variables and form the input for our regression analysis.

H5u Decision aid has a positive effect on purchase probability.

H6u Interstore service has a positive effect on purchase probability.

H7u Product comparison has a positive effect on purchase probability.

H8u Risk minimization has a positive effect on purchase probability.

After conducting the regression analysis in paragraph 4.4, we found the individual effects per construct on purchase probability for both online and offline buyers. Although the effects differ somewhat in strength between online and offline buyers – as we already concluded in our first analysis – they all show a positive effect on purchase probability. We can thus conclude that hypotheses H5u to H8u are supported.

4.3 RESULTS OF ANALYSIS 3

Our third analysis puts some extra depth into the study by incorporating the theory about different types of customers: maximizers and satisficers. Maximizing and satisficing are two very distinct approaches in purchasing products. We have discussed their characteristics in paragraph 2.3. In our initial hypotheses we stated that each variable has a more positive effect on purchase probability for maximizers than for satisficers. However, since we bundled our variables into constructs, we have reformulated our hypotheses into:

H9u Decision aid has a more positive effect on purchase probability for maximizers than for satisficers.

H10u Interstore service has a more positive effect on purchase probability for maximizers than for satisficers.

H11u Product comparison has a more positive effect on purchase probability for maximizers than for satisficers.

H12u Risk minimization has a more positive effect on purchase probability for maximizers than for satisficers.

Finding answers to these hypotheses is basically creating an extra layer in analysis 2. We have created a moderator per construct to measure the effect of the maximization scale (MAXSAT) on each construct. Results can be found in table 9.

A positive value means that the effect on the construct in explaining purchase probability is positively stronger for maximizers than for satisficers. A negative value means that the effect on the construct in explaining purchase probability is negatively stronger for maxi-mizers than for satisficers.

As already discussed in chapter 3.5, we cannot conclude that the maximization scale has a significant effect on purchase probability. None of the values in the table above are significant at a 95% confidence interval.

Although the following remarks might not be of significant effect, we still want to say something about the differences between the constructs. We see that the maximization scale shows the same effect direction between the online and offline model for *decision aid, product comparison* and *interstore service*. Where *decision aid* and *product comparison* show a negative effect (higher purchase probability for satisficers than for maximizers), *interstore service* shows a positive effect (higher purchase probability for maximizers than for satisficers). Should the results have been significant, we could have concluded that H9u and H11u should be rejected. H10u is then supported.

~~H9u Decision aid has a more positive effect on purchase probability for maximizers than for satisficers.~~

~~H11u Product comparison has a more positive effect on purchase probability for maximizers than for satisficers.~~

It seems that *risk minimization* is our only special case. The online model shows that the moderator has a negative value, thus indicating that regarding *risk minimization*, satisficers have a higher purchase proba-bility in an online environment than maximizers. However, since the moderating value for risk mini-mization is positive in the offline environment, maximizers would have a higher purchase probability regarding *risk minimization* than satisficers.

Because we see different results between our online and offline model, we should conclude that we cannot fully reject hypothesis H12u.

4.4 EXTRA – THE SEARCH PROCESS

Besides the results for our analyses, we felt we should share some statistical results regarding the process respondents use in their search for a new television.

Our study shows that 79% of the respondents are using the internet as a medium in some sort. On the contrary, 21 % does not use the internet in their process at all. One-third starts their search for a new television in a local shopping centre. All of these respondents make their final purchase in a local store and not on the internet. Another one-third starts their quest at a shopping bot (e.g. kieskeurig.nl, beslist.nl). 39% of this group purchases the television on the internet, whereas 61% stops in a local store to do the purchase. Of all respondents, 32% starts their search process with a search engine (e.g. google.nl). 26% of this group makes the purchase on the internet, 74% in a local store. Finally, only 1% starts it search on an online marketplace (e.g. marktplaats.nl). The final purchase is then – most obvious – also made online.

Concluding, 33% of all respondents start their search in a local shopping centre and 66% start online. Interestingly only 22% of all respondents is truly making the purchase online. All others, a grand total of 78%, does the final purchase in a local store.

5 IMPLICATIONS AND LIMITATIONS

Now that we have found answers to our hypotheses, we transform our results into practical handles. This chapter covers the study's implications, as well as a short description of its limitations.

5.1 IMPLICATIONS

The goal of this study was to measure the differences in effects on purchase probability for channel choice and pre-set determinants, as well as for different types of consumers. While many studies have already been performed to find out effects on purchase probability for low-cost convenience goods, less is known for more expensive goods. This study explores these possible effects.

Where many studies focus on either online or offline buyers, this study focussed on comparing both groups and measuring the differences in effects. The first implication of this study is that both groups are influenced differently. Both groups value risk minimization as the most important determinant in purchase probability, but all other determinants are different across channel choice. Where service levels are an important driver for offline buyers, decision aid and product comparison prove to have more effect on online buyers. These results could be of excellent use for retail organizations seeking to understand their customers' purchasing behaviour.

At the start of the study we asked how the probability to purchase a television differs in online and offline environments for different types of customers. Our study showed us that purchase probability for televisions indeed differs between online and offline environments.

As table 7 shows, the probability to purchase a television online is equally driven by the extent to which consumers are aided in their process to actually purchase a television (.308) and their tendency to minimize potential risks (.308). Online retailers should thus mainly focus on increasing their aid in customer decision making and minimize risks that might occur. Their third focus should be on making their product offering more transparent so that customers are easily able to compare products and make a good decision (.231). Lastly they should focus on increasing their interstore service level (.154). We defined interstore service as the transparency of service levels between stores. A potential way to improve on this is to be transparent with your own service levels and inform customers about similarities and differences between stores.

When looking at the probability to purchase a television offline, risk minimization (.394) and interstore service (.285) form the two greatest focus areas. Followed by decision aid (.194) and the easiness to compare products (.117). Offline retailers should be best off with creating a transparent image of their service levels and focusing on reducing potential risks that could incur with purchasing a television. The third focus should be on increasing their aid to the buying process of potential customers. An example is to train sales representatives in their knowledge, kindness and helpfulness. Lastly, offline retailers should focus on the ability to compare products. One can imagine that a webshop offers a wider range of televisions than a traditional offline store. This is logical because of the limited store space that offline retailers have to deal with. Somehow offline retailers need to find a solution to smoothen the ability to compare products. An example could be to create interactive tablet stands in the store which customers can use to search for televisions and compare televisions.

Another implication we wished to share was the moderating effect of two customer types (satisficers and maximizers) on the four constructs. Unfortunately we found out that in our study none of the constructs are significant on a 95% confidence interval when combined with the customer types. We are thus unable to share implications for that part of the study.

5.2 DISCUSSION

There are several interesting findings in our study as summarized in our implications section. Some aspects of our study are not mentioned as implication, but still deserve some extra note.

The first topic is that our composed constructs differ from the initial set of variables as stated in the original conceptual model. Merging variables in constructs often leads to loss of validity. The names of our constructs could be topic of discussion. It is therefore highly advised to check which variables underlie each construct. It is also worth to note that despite the fact that the online and offline environment both contain the same four constructs, the composition of the constructs are not always the same. For example, risk minimization in the online environment is explained by trustworthiness, risk aversion and experience. In the offline environment this is explained by price, trustworthiness and risk aversion. Construct composition can thus slightly differ across environment. We have strived to keep constructs as closely related as possible.

Another topic worth to discuss is the maximization theory we integrated into the study. The theory implied that maximizers settle for the best alternative; no less. And satisficers settle for an acceptable alternative. Not necessarily the best alternative. We would expect that results from our study show that our constructs would have a more positive effect on maximizers in increasing their purchase probability than it would have on satisficers. While we know that our results are not statistically significant, we found that only interstore service and risk minimization in the offline environment have a more positive effect on purchase probability for maximizers. All other constructs show a more positive on purchase probability for satisficers.

We believe that this could potentially be due to the higher price-setting and risk associated with purchasing goods such as a television. This could reduce the level of satisficing and make both types of consumers somewhat equal. To find out if this is really what makes or breaks the theory, additional research should be done. However, that is outside the scope for this study.

5.3 LIMITATIONS

Although we carefully conducted our study, we came across some limitations of the study we felt we should share. These limitations could be of great input for future research.

Observing people in their natural habitat often gives the most accurate and honest image of someone's buying behaviour. Due to limited time we were unable to collect data via observations. Our survey approach could lead to a distorted dataset due to various methodological complications; misinterpretation of questions, mood of respondent, etc. A recollection of the data could be done with an observational approach.

Another limitation was already expected in advance. Due to the relatively small amount of respondents participated in our study, we were unable to provide an accurate and representative image. We are aware of the fact that our results are statistically not justified. Because of the small sample size, we came across some problems, like possible overspecification of our regression models. We are unable to clearly interpret some values in our regression models, especially the moderators regarding MAXSAT. To find results with significant effects, the data collection could be redone with a greater sample size.

We tried to make our study as complete as possible by investigating a total of seven variables. Despite of this high number of determinants, there are in fact many more drivers explaining purchase probability. While we limited our study to transparency, experience, price sensitivity, services, trustworthiness, risk aversion and recommendations, other studies [5] suggest that factors like effort, fun also contribute significantly to probability to purchase. It is worth to find out which portion of purchase probability is actually driven by the factors we analyzed in our study.

The next limitation concerns the fact that our single survey contains questions about both environmental areas. Common method bias may thus have influenced some of the answers given in the survey. For instance, answers given regarding the online environment may have influenced the way respondents valued questions regarding the offline environment. We expect our dataset to be slightly biased towards the online environment.

Our final limitation is also methodologically related. Somehow we lacked a question regarding *risk aversion* in our survey. We were therefore unable to fully investigate our hypothesis regarding risk aversion. To mitigate the error in the study, we decided to perform a factor analysis to check for possible underling constructs. We found four. We then resumed our study by using the four constructs rather than the initial variables. By doing this, we were still able to continue the study and we limited the possible errors regarding risk aversion. However, for a more complete image, the study could be redone. This time including the missing data.

The ultimate goal for our research would be to create a viable purchase probability model that closely predicts the buying behaviour of customers. The limitations mentioned here will provide means to this. We believe that when our limitations are eliminated, we are one step closer to correctly formulating the model. By enlarging the sample size, include observations and increase the amount of relevant variables in the model, we feel that we could create a refined explanatory model with practical and theoretical generalizability. Retailers could use this refined model to make informed decisions regarding their approach to customers, subsequently leading their ultimate sought balance: creating a pleasant shopping experience while increasing profit significantly.

6 APPENDIX A – REFERENCES

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7 APPENDIX B – DEMOGRAPHIC CONTROL VARIABLE

Statistics

		Geslacht	Leeftijd	Opleiding	Werksituatie	Inkomen
N	Valid	133	134	135	133	132
	Missing	4	3	2	4	5
Mean		1,46	3,42	3,71	2,09	2,07
Std. Deviation		,500	1,165	1,064	1,246	,821

Geslacht

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	72	52,6	54,1	54,1
	Vrouw	61	44,5	45,9	100,0
	Total	133	97,1	100,0	
Missing	0	4	2,9		
Total		137	100,0		

Leeftijd

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	< 18	4	2,9	3,0	3,0
	18 - 24	31	22,6	23,1	26,1
	25 - 44	35	25,5	26,1	52,2
	45 - 64	33	24,1	24,6	76,9
	65+	31	22,6	23,1	100,0
	Total	134	97,8	100,0	
Missing	0	3	2,2		
Total		137	100,0		

Opleiding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lagere school	3	2,2	2,2	2,2
	Middelbare school	17	12,4	12,6	14,8
	MBO	32	23,4	23,7	38,5
	HBO	47	34,3	34,8	73,3
	WO	36	26,3	26,7	100,0
	Total	135	98,5	100,0	
Missing	0	2	1,5		
Total		137	100,0		

Werksituatie

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dienstverband	71	51,8	53,4	53,4
	Werkloos	5	3,6	3,8	57,1
	Met pensioen	31	22,6	23,3	80,5
	Student	26	19,0	19,5	100,0
	Total	133	97,1	100,0	
Missing	0	4	2,9		
Total		137	100,0		

Inkomen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Ondergemiddeld	40	29,2	30,3	30,3
	Gemiddeld	43	31,4	32,6	62,9
	Bovengemiddeld	49	35,8	37,1	100,0
	Total	132	96,4	100,0	
Missing	0	5	3,6		
Total		137	100,0		

8 APPENDIX C – ROTATED COMPONENT MATRICES

Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
Q12_ON_RISK	,765						
Q12_ON_PRICE	,757						
Q12_ON_TRUST	,734						
Q15_OFF_PRICE	,637				,351		
Q15_OFF_TRUST	,563				,482		
Q8_RECOM_b		,767					
Q8_RECOM_a		,756					
Q12_ON_RECOM	,300	,681	,399				
Q8_SERVICE		,612					-,352
Q15_OFF_RECOM		,494		,344	,319	-,395	
Q12_ON_TRANSP			,834				
Q12_ON_EXP			,797				
Q12_ON_SERVICE		,395	,718				
Q15_OFF_EXP				,902			
Q15_OFF_TRANSP				,866			
Q15_OFF_SERVICE		,371		,615			
Q8_RISK					,768		
Q8_TRUST		,305			,608	,429	
Q8_EXP	,389					,656	
Q8_TRANSP						,651	
Q8_PRICE							,871

OVERALL FACTOR ANALYSIS
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 14 iterations.

Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
Q15_OFF_TRANSP	,902						
Q15_OFF_EXP	,886						
Q12_ON_PRICE	,544				,405		
Q8_RECOM_b		,825					
Q8_SERVICE		,754		,391			
Q8_EXP		,655					
Q15_OFF_TRUST		-,547			,358		-,365
Q8_RECOM_a		,522				,521	
Q8_RISK			,911				
Q8_TRUST	-,362		,866				
Q8_TRANSP			,596		,352		,403
Q15_OFF_RECOM				,791	,339		
Q15_OFF_PRICE				,778	,330		
Q15_OFF_SERVICE	,329			,744			
Q12_ON_RISK					,778		
Q12_ON_TRUST					,699		
Q12_ON_EXP			,529		,530	,322	
Q12_ON_TRANSP						,796	
Q12_ON_SERVICE						,738	,312
Q12_ON_RECOM	-,406	,381		,477		,516	
Q8_PRICE							,819

ONLINE BUYERS ONLY
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 10 iterations.

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
Q12_ON_PRICE	,769					
Q15_OFF_PRICE	,732					
Q12_ON_TRUST	,715	,401				
Q15_OFF_TRUST	,687					
Q12_ON_RISK	,676					
Q12_ON_SERVICE		,771				
Q12_ON_RECOM		,769				
Q8_RECOM_b		,667		,396		
Q8_RECOM_a		,662				,348
Q12_ON_EXP	,391	,501			,353	
Q15_OFF_RECOM	,305	,490			-,300	,388
Q15_OFF_EXP			,876			
Q15_OFF_TRANSP			,795			
Q8_SERVICE				,826		
Q15_OFF_SERVICE			,505	,661		
Q8_TRANSP	-,333				,695	
Q12_ON_TRANSP		,448			,602	
Q8_EXP	,328				,593	
Q8_TRUST				,551	,560	
Q8_PRICE						,731
Q8_RISK	,348					,533

OFFLINE BUYERS ONLY
Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 11 iterations.

9 APPENDIX D – HYPOTHESES OVERVIEW

INITIAL HYPOTHESES

Hypothesis	
H1	Online environment > transparency < offline environment
H2	Transparency > purchase probability
H3	Experience > purchase probability
H4	Offline environment > experience < online environment
H5	Price sensitivity > purchase probability
H6	Offline environment > price sensitivity < online environment
H7	Service > purchase probability
H8	Offline environment > service < online environment
H9	Trustworthiness > purchase probability
H10	Online environment > trustworthiness < offline environment
H11	Risk aversion > purchase probability
H12	Offline environment > risk aversion < online environment
H13	Recommendations > purchase probability
H14	Online environment > recommendations < offline environment
H15	Transparency > purchase probability (max > sat)
H16	Experience > purchase probability (max > sat)
H17	Price sensitivity > purchase probability (max > sat)
H18	Service > purchase probability (max > sat)
H19	Trustworthiness > purchase probability (max > sat)
H20	Risk aversion > purchase probability (max > sat)
H21	Recommendations > purchase probability (max > sat)

UPDATED HYPOTHESES

Hypothesis		Results
H1u	Offline environment > decision aid < online environment	Rejected
H2u	Offline environment > interstore service < online environment	Supported
H3u	Offline environment > product comparison < online environment	Rejected
H4u	Offline environment > risk minimization < online environment	Supported
H5u	Decision aid > purchase probability	Supported
H6u	Interstore service > purchase probability	Supported
H7u	Product comparison > purchase probability	Supported
H8u	Risk minimization > purchase probability	Supported
*H9u**	Decision aid > purchase probability (max > sat)	N.a.
*H10u**	Interstore service > purchase probability (max > sat)	N.a.
*H11u**	Product comparison > purchase probability (max > sat)	N.a.
*H12u**	Risk minimization > purchase probability (max > sat)	N.a.

*These hypotheses cannot be judged correctly because of no significant effect.