How does framing influence consumers' willingness to pay?

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Executive Summary

In this fast-changing world it is crucial to present a product in a way that could instantly attract the attention of consumers. Especially in online market where choices are unlimited. Moreover, due to intense competition, it is difficult to become a stable market player and to make a profit. Any information online could reach millions of people throughout the world. Thus a part of succeeding is developing a strong marketing strategy which would help standing out of the competition and attract an audience. To alter consumer's perception in a certain direction a concept known as *framing* could be used. Usually it is implemented by using specific words or phrases altering the context. Framing means that presented information stays the same, but the context or 'frame' in which it is presented changes, in this way influencing perception. Furthermore, delivery of product information must be fast and understandable, thus one specific piece of information about a product might be emphasized. This emphasis might be put not on a specific product attribute, but on alternative products presented alongside in the same set. These alterative productss serve as *anchors* – consumers perceive them as a direct substitute for the main product and this might alter their purchase behavior accordingly.

The objective of this research is to investigate the effect of differently framed sets of items using alternative (anchor) products as an emphasis. More specifically, emphasis is put on the *price magnitude* and the *size of the price range* those products lie in.

Based on the results – collected using online questionnaire with 163 valid respondents – various significant conclusions can be drawn. Reference products, more specifically their price magnitude and price range, have a direct influence on consumers' willingness to pay. Moreover, when the given prices of the reference products are relatively high willingness to pay tends to increase. The contrary effect occurs when reference products contain low prices – willingness to pay decreases.

When aiming to enhance perceived quality of the product and reduce the perceived product purchase risk, the reference products (magnitude of the prices and size of the price range) do not have any influence. However, the perceived product quality has a direct impact on consumers' willingness to pay.

When using reference products with high prices for the reference products, the frame decreases and aggravates decision making process and confidence.

In contrary to what was expected, familiarity with the product class only had significant influence on the perceived product quality.

Content

1. Introduction

1.1 Context

In this thesis I am going to study the insights of the framing using reference products. I will look for the effect of framing on consumers' behavior, more specifically, to their willingness to pay.

Nowadays, when the variety of supply is relatively high consumers are confronted to what is called a "**paradox of choice**". The paradox of choice implies that when faced with more options, consumers will make poorer decisions and show a reduced satisfaction (**Schwartz 2005**). When an individual is faced with having to choose one option out of many desirable ones, he or she will begin to consider possible trade-offs and will start to feel pressure and thus refuse to make a purchase decision at all. In order to avoid that, marketing specialists often apply **framing effect** – to ease the decision making process and to make the 'right' decision.

People tend to think that they are logical creatures and make only rational decisions based on the information that is available. Yet the reality is that all people have common biases that can lead to weak judgment or irrational decisions. These specific biases that influence thinking are called **cognitive biases.** One of these cognitive biases is **framing**. It means drawing different conclusion from the same information, depending on how that information is presented. Framing describes that the choices depend on how the problem is presented, the way the question is 'framed'.

1.1.1   Introduction to Framing effect

Framing is one of the strongest biases influencing decision making. So called decision issues can arise when having to choose from given options and having to compute the possible outcomes of these actions. 'Decision frame' refers to decision-maker's conception of all possible outcomes and consequences of a particular decision (**Tversky and Kahneman, 1981**). The frame (a decision-maker's perception) is based on any habits, norms and personal characteristics of the decision maker.

The classic example of framing is by Tversky and Kahneman (**1981**) where respondents were offered two alternative solutions for 600 people affected by a hypothetical disease.

- Option A saves 200 people's lives
- Option B has a 1/3 chance of saving all 600 people and a 2/3 possibility of saving no one

72% of participants chose option A

They offered the same scenario to another group of participants, but worded it differently:

- If option C is taken, then 400 people die
- If option D is taken, then there is a 1/3 chance that no people will die and a 2/3 probability that all 600 will die

However, in this group, **78% of participants chose option D** (equivalent to option B).

This experiment shows the essence of framing. Two groups supported different options, because of the way the information was presented. The first group was given a positive frame (emphasis on lives saved), where the second group was given a negative frame (emphasis on lives lost).

Thus even though the given information was identical, the respondents were influenced and made a decision in a way the information was framed.

1.2 Research problem

Using framing effect marketeers can easily influence purchase decisions by the way they frame their offers. For instance, showing price in terms of cents per day instead of Euro's per month will make a product more appealing to consumers – 90 cents per day for a gym membership sounds more attractive than €30 a month. Levin and Gaeth (**1988**) in their experiment asked participants to rate qualitative attributes of ground beef that framed the beef as either "75% lean" or "25% fat". The results were that respondents were more favorable toward the beef labeled lean, rather than labeled fat. Even though the information is the same, its framing has a huge impact on consumer's choice.

Nowadays more and more people are shopping online for various reasons – convenience, wide selection, fast purchase process and many others. One of the main concerns that online shoppers face is to purchase products or services in a timely and efficient manner to achieve their goals with a minimum of irritation and interference (**Perea et al., 2004**).

Every company does not matter if it operates online or in a real world, has the same goal – to present information in an appealing manner in order to attract the right consumers and persuade them into buying a product or a service. Hence it is important to understand how to frame a set of products using reference products, in order to increase consumers' willingness to pay. A set of products is a group of alternatives that consumer can choose from. Usually in

the stores or online shops consumers are initially confronted with products that vendors are willing to sell first, thus this first confrontation has an impact on consumers' willingness to pay. The difference in prices of presented alternative items might have a significant influence on consumer's perception and further behavior. Thus, it is interesting to see what is an effect on consumers' willingness to pay if the prices of alternatives vary in magnitude (low price or high price) and price range (small range or large range). Moreover, this matter might seem appealing to the marketeers as it will provide valuable insights about consumers' purchase behavior.

1.3 Relevance of the topic

From the literature perspective, the effect of framing has been studied for decades. However in many of the cases framing is examined through the approach of risk perception, i.e. how risk averse or risk taking are the consumers when they have to judge the situation that is framed either as a gain or as a loss (**Kahneman and Tversky, 1979**).The effect of framing can also be tested by favorable or unfavorable associations that were evoked by positively or negatively framed attribute information (**Levin and Gaeth, 1988**). Regardless distinct concepts of framing effects found in the literature, there are none or very few researches done on framing of prices of the products. More specifically when the emphasis is put on the prices (magnitude and range size) of alternative products. Measuring framing effect in a new situation from an interesting perspective would add value to the existing literature.

From the perspective of companies and marketeers, it is important to understand cognitive framing effect to know how to direct a consumer to make a right purchase decision. Since there is an unlimited choice in the online market, companies should find ways to facilitate decision making process for consumers. People often have limited amount of information about products or services, thus to collect information, generate it and make a final decision might take a lot of time, which is costly and ineffective. For instance, consumers who look for a product in online store it is convenient to use a recommended product sets, which provides a set of alternative products closest to their desirable item. Thus the way the set is framed depends on the vendor itself. Hence, the findings of this study can be a valuable source for creating marketing strategies.

1.4 Problem Statement and Research question

Based on the previous paragraphs, I am going to examine how the framing of the sets of alternatives affects consumers' willingness to pay.

Research question:

> *How does the framing of the prices of alternatives impact on consumers' willingness to pay?*

1.5 Research method

The research of the thesis will start with defining the problem statement and determining the research question.

Secondly, the relevant literature will be collected and reviewed in order to ensure that all the definitions and terms are explained. Based on the literature, hypotheses will be formulated, which will be presented in a conceptual framework.

In order to test the research question, a 2 (different magnitudes of the prices) x 2 (different sizes of the price range) between-subject design experiment will be applied. The employed manipulations are magnitude of the prices (low price versus high price) and size of the price range (small size versus large size). With a help of on online questionnaire, the impact of independent variables (magnitude of the price and size of the price range) on willingness to pay (dependent variable) will be measured using proven measurement scales from existing literature.

The product group of interest is *tents*. This product is selected because it is a quite random and not very frequently used. Moreover, it is expected that not many respondents would be highly familiar with this product class, thus their responses will be unbiased and impacted by the given manipulation.

During the online experiment, every respondent will be confronted with one of four frames. The dependent variable will be measured after the respondents viewed the stimuli. First of all they will be exposed to the stimulus that contains only the main product (no alternative items) and will be asked to evaluate their willingness to pay. After this section, respondents will be confronted with a framed stimulus. Each framed stimulus will contain one main product (the same in all the frames) and two alternative products that will vary in magnitude of the prices and size of the price ranges; moreover, they will serve as an anchor. Again, after seeing the stimulus, respondents will be asked to determine their willingness to pay. Before conducting the final experiment, a pre-test experiment is taken, after which the content of the questionnaire is corrected where needed.

The data gathered by the questionnaire is analyzed using various statistical techniques. After cleaning and validation of data, descriptive analysis is used in order to get a better understanding of the characteristics of each variable.

Finally, the results are discussed, conclusions are drawn and final implications are suggested.

1.6 Research structure

This research contains seven chapters. The first chapter ("Introduction") describes the background of the research, cause of the research, relevance, a short introduction of the methods that will be used, and most importantly the problem statement and research question.

The second chapter ("Theory") presents the definition and explanation for every variable based on the relevant existing literature. Then the conceptual map with the hypotheses will follow.

The third chapter ("Methodology") clarifies the methodology of the research, identifies the construct measurements and the design of this research. It includes a sampling design and procedure, data collection and the final questionnaire.

In chapter four ("Data") the collected data will be verified, cleaned and validated. Some general insights of the data will be discussed (e.g. demographics of the respondent group or the validation of reliability of constructs).

The fifth chapter ("Analysis and Results") presents the test results for each of the proposed hypotheses.

In chapter six ("Discussion") the results are implied and discussed.

In the last chapter ("Conclusions") summarizes the main findings of the research and describes managerial implications, the limitations and suggestions for future research.

2. Theory

In order to ensure that all the variables are presented in an understandable manner, each variable is defined by existing literature. When variables are clearly described, hypotheses, structured by the existing literature, will be proposed.

2.1 Literature and definitions

2.1.1 Consumer decision making

There are many assumptions of how consumers come to a decision, especially when the task is complex – they have to decide the level of the attributes of the product, amount of effort they want to put in, possible trade-offs and others. Nowadays consumers face a constantly increasing selection to choose from. Herewith, the complexity of making a purchase decision increases. Due to the lack of knowledge or experience in complex environments, consumers are often unable to evaluate available alternatives in depth before making a final decision **(Beach 1993)**. Furthermore, consumers tend to pay little attention to information and judgment tasks and thus rely on what is exposed directly rather than developing a systematic and conscious judgment (**Thaler and Sunstein, 2008**).Payne **(Payne 1982, Payne et al. 1988)** claims that in order to come to a final purchase decision customers use a two-stage decision making process. In a purchase making process a consumer will firstly screen a large set of current products available in a database without further in depth evaluation, and determines a subset of the most promising alternatives (i.e. a consideration set). Subsequently follows the more in-depth evaluation of the consideration set, when comparisons of important attributes are performed before committing to the final alternative **(Haubl and Trifts 2000)**. Taken this tendency of using this two-stage decision process, the framing of the alternatives' set can be useful for consumers to facilitate the decision making and for online vendors to sell the product more easily. More specifically, online vendors can decide how to frame the set of product to present it in an attractive manner. In this way a certain perception about a product is formed and it might be sold more easily.

2.1.2 Consumer decision-making with conflict

Susan T. Fiske and Shelley E. Taylor (1991) describe human beings as "cognitive misers" by nature. That means that they are limited in cognitive capacity to process information, so they prefer to do as little contemplating as possible. Thus making a purchase decision can be a difficult task. First of all, it requires to choose between several (often really similar) alternatives and secondly, requires trade-offs between attributes. Hence, it creates a conflict.

On the other hand, according to the *rational choice theory* it is assumed that conflict does not play a role. Hence, consumers make fundamentally 'rational' choices and they calculate the costs and benefits of an action before making a final decision (**John Scott 2000**). Herewith, classical *theory of decision making* assumes that preferences are complete and that information processing is costless (**Dhar 1997**). Moreover this theory views a consumer (i.e. decision maker) as acting in a world of complete certainty, assuming that they have complete information, consider all possible alternatives and consequences before making the final decision (**Lee et al 1999**). It is obvious that in reality, especially on the Internet, consumers might be unable to process information due to their cognitive limitations or all the possible product alternatives are unavailable to find. In practice, consumers may be willing to settle for less precise decisions (in terms of the preferences) in order to reduce the effort. Thus consumers have to make their choices not based on well formulated and explicitly ranked preferences. The lack of clarity in the preference of alternatives leads to difficulties in making a final decision. This could result in indecision and deferral of a final product choice.

2.1.3 Framing

The major premise of the framing theory is that a problem can be seen from many different perspectives. Therefore this theory might be referred to the process by which people develop a specific perception about an issue. Naturally people think that they perceive information rationally and make decisions based on all available facts or with the help of memory. Unfortunately, consumer decision making is a complex task, but yet one of the most important interests in consumer research. Especially when current marketplace tendencies are constantly shifting – e.g. technological changes or increasing amount of available information.

The selection process of product or service can be difficult to as consumer as well as to marketers or policy makers (**Bettman et al., 1998**). Companies struggle to present product information in a highly attractive manner. At the same time they want to place products they want to sell and make profit. People, on the other hand, often lack a capability to clearly define their preferences; but instead they might set them up when the need occurs to make a decision. Thus the formation of consumer preference might be constructed by building on the set of given values, rather than discovering the ones that are already there.

Throughout the literature the concept of framing is usually referred to a single prospect theory (**Kahneman&Tversky, 1979**). They theorized that framed information is encoded as positive or negative and that the encoding determines the perceived value of information. Moreover,

this is a "standard" framing effect. Levin et al (**1998**) introduced the typology of framing effects. The authors distinguished three different kinds of framing effects: *risky choice framing* (the "standard" introduced by Kahneman & Tversky), *attribute framing* (some characteristic of an object stands as a focus on framing manipulation) and *goal framing* (a goal of an action is framed).

Table1: Summary of differences in Risky choice, Attribute and Goal Framing

Frame type	What is framed	What is affected	How effect is measured
Risky choice	Set of options with different risk levels	Risk preference	Comparison of choices for risky options
Attribute	Object attributes or characteristics	Item evaluation	Comparison of attractiveness ratings for the single item
Goal	Consequence or implied goal of a behavior	Impact of persuasion	Comparison of rate of adoption of the behavior

Source: based on Levin et al. (1998)

These empirical findings are consistent: in risky choice framing, a choice shift occurs as positive frames enhance risk averse, responding to the negative frames that lead to risk seeking. In attribute framing, attributes are judged more favorably when labeled in positive rather than in negative terms. And in goal framing, a negatively framed message putting emphasis on losses tend to have a bigger impact on a behavior than a positive message emphasizing gains. Thus, different types of framing have the same impact on consumers' judgment and behavior.

Previous literature claimed that framing affects overall judgment and perception. Particularly, positive framing of a subject tends to increase the level of support of that action and vice versa (**Kahneman and Tversky, 1984; Rothman and Salovey, 1997; Tversky and Kahneman, 1986**). If a person holds unfavorable prior beliefs to positively framed statements, the likelihood will increase that this positive statement will be rejected due to the low involvement setting. (**Chaiken, 1980**). On the other hand, when information comes from a strong and influential source, the inconsistency between prior ideas and the new information might lead to changing opinions (**Lynch and Srull, 1982**).

Negative framework is supposed to provoke fear, which leads to uncertainty, reduced sense of control and increased risk perception (**Lerner and Keltner, 2000**). Negative emotions lead

consumers to follow those negative associations in the following judgment tasks. The more frame is associated with risk and the prospect's lowest possible outcome, the lower the willingness to pay will be. On the other hand, the highest possible outcome should influence willingness to pay to a much lesser extent (**Yang et al., 2013**). Thus, negative frame has a stronger influence on perceptions than a positive frame does (**Slovic, 1993**).

2.1.4 Framing in real market

Decision making research involves heuristics that take into account individual's limited ability to process more than a few pieces of information in order to make a choice (**Tversky and Kahneman, 1981**). When consumers are exposed to several complex alternatives, making decisions rationally becomes difficult due to the fact that memory and attention factors that affect the judgment are simply unavailable to consciousness (**Lynch and Srull, 1982**). Thus, due to all the facts, if company invests in consumer research, it might be easy to manipulate the consumers. For instance, online vendors can frame a set in a way that consumers are stimulated to choose a particular product instead of offering them an unbiased way to make their own choice from the list that best matches their preferences. However, some might argue that the situation described above might not be optimal and might be seen as undesirable from a viewpoint of a social welfare.

Yet in a physical world, for instance in supermarkets, that kind of situation is not uncommon. Supermarkets use certain shelf-space framing to entail consumers to select the "right" product (**Hanson and Kysar, 1999**). Most of the times the alternatives provided to consumers entail them to choose more expensive products or larger quantities (discounted products). People are also induced to select middle option and the ones that are put at the height of eye-level. Moreover, if an item with a higher price is added to the product mix that increases the value of a medium range.

2.1.5 Anchoring

When making a purchase decision, most of the people base it on their knowledge and experience. Others rely on the current information and do not have a priori preferences - people are not willing to spend much time or effort on making a choice.

So how do consumers decide on the product they want to buy? Or on the highest price they are willing to pay for a product? There are various factors influencing price perceptions, including assessments of the perceived product value and the reference prices consumers use to evaluate the attractiveness of the product (**Simonson and Drolet, 2004**). Those reference

prices are so called *anchor* prices. Anchoring is a cognitive bias, showing that consumers rely heavily on the first piece of information offered (*the anchor*), when making a decision. Once the anchor is set, judgments are made by adjusting the price to that anchor price. For instance, usually in restaurants the most expensive wines are put at the beginning of the wine card, so that a customer sees it the first. This leads a person unconsciously adjusting one's choice to the wines he or she noticed first (the *anchor*). At this case a customer will probably spend more on a wine than expected.

The original definition of anchoring was made by Tversky and Kahenman (**1974**). The main idea was that "decision makers, in developing their final estimate, adjust the considered anchor but tend to do so insufficiently". Anchors lead that termination of adjustment is at the nearest upper or lower boundary of a large scale of values, thus adjustment tends to be insufficient.

Kruger (**1999**) claims that due to insufficient adjustments there is a tendency that people tend to minimize their cognitive effort. Moreover, Strack and Mussweiler (**1997**) proposed an idea that consumers tend to construct a mental model that increases the accessibility of anchor-related information, presumably that the anchor is relevant to the final estimated value.

In this study a manipulation consisting of four different scenarios will be used. Each condition will hold a different initial point – anchor. The anchoring value will presumably influence and alter the respondents' estimated willingness to pay.

2.1.6 Willingness to pay

Willingness to pay (WTP) is the maximum amount an individual is ready to pay for certain product or service. The perceived value of the product (service) and the sacrifice involved in acquiring it are both the reflections of the price that consumer is willing to pay. It is not surprising that consumers tend to first judge the value of an offer and then decide whether or not to make a purchase (**Simonson and Drolet 2004**). In order to make a final purchase decision, consumer has to somehow estimate the value of the product (or service). According to **Thaler (1985)** the estimation of perceived value consists of product's acquisition value (based on the ratio of product's perceived benefits to the perceived sacrifice) and the transaction value.

The transaction value depends on perceived gains or losses relative to reference prices. People make estimates from initial value that is adjusted to come up with a final choice (**Tversky and Kahneman 1974**) and this can be described as an *anchoring*. Usually in a typical

research, respondents are asked to evaluate certain value when given an arbitrary value. Typically these estimates are influenced by the given anchor. Thus if one extreme (dominant) alternative is added to a set of alternatives, it will be perceived as an anchor and the final decision a consumer will make will be influenced by it. Moreover, it has to do with people's limited cognitive effort – tendency to use as little effort as possible in making a decision.

2.1.7 Reference price in the Price range

In the behavioral pricing literature it is accepted that consumers judge the attractiveness of product price by comparing it to the market price. Consumer price perception can be understood better with concepts of "reference price" and "range of acceptable price" (**Lichtenstein and Bearden, 1989, Urbany, Bearden and Weilbaker, 1988**). Thus consumers' price perception can depend on mean prices of competitive brands, the price ranges seen, the presentation order of a set of prices and the reference frames (**Lynch, Chakravarti and Mitra, 1991**). A *reference price* can be defined as "a standard price against which consumers evaluate the actual prices of the products they are considering" (**Rajendran and Tellis, 1994**). *Temporal reference* price suggests that consumers evaluate price by adapting to past prices of the brands. Opposite is the *contextual reference* price that suggests that consumers estimate prices by comparing them with others they see at the point of purchase (**Rajendran and Tellis, 1994**). Reference price is a neutral point for comparison – prices below it are low (relatively inexpensive) and prices above it are high (relatively expensive) (**Monroe, 1990**).

Consumers do not respond to prices absolutely, but only relatively to the reference price (**Thaler, 1985**). Previously mentioned *prospect theory* (**Kahneman and Tversky 1979**) claims that customers make decisions in terms of gains or losses relative to a reference point, but not in terms of absolute wealth (implication of evaluating products by comparing their prices to a reference price). There are several theories about price judgment and reference prices, yet the most common one is Helson's *Adaptation – level theory* (**1964**). This theory proposes that "judgments are proportional to deviations from a comparison standard" (**Niedrech, Sharma and Wedell, 2001**). More specifically, theory claims that stimuli are judged with respect to internal norms that represent effects of past and present stimulation (**Kalyanaram and Winer, 1995**).In a pricing context adaptation level (or a reference point)is a range and dispersion of price stimuli a consumer is presented that depends on recent price experiences.

Another account of how consumers make judgments is *range theory* (**Volkmann, 1951**). According to Volkmann only end-stimuli (end points) control the fluctuations of the scale. The center of the stimulus range (e.g. price range) has no significance – it is only a mean of the two end stimuli. For example, theory proposes that a 50 gram weight should be judged as heavy when the range of a given stimuli varies from 20 grams to 60 grams, moderately heavy when the range is from 30 grams to 60 grams and light when the range is from 40 to 80 grams (**Volkmann, 1952**). If a heaver (e.g. 100 grams) is added to a set of 20 gram to 60 gram, it will make the weight s look lighter.

Janiszewski and Lichtenstein (**1999**) in their research found out that people use end points of the price range when evaluating the attractiveness of market price (reference point). The attractiveness fluctuated positively in the direction of the ranges. Thus this can be implied that consumers are positively influenced by the end points for price judgments.

Moreover, in line with previous findings of Janiszewksi and Lichtenstein, Niedrich et al (**2001**) supported the range theory and found that end points of the price range are more applicable as customers place more weight on high or low prices because these extreme values are more salient than prices in the mid-range. Furthermore, authors hypothesized the idea that end points of the price range are expected to be more easily retrieved from memory, thus the anchor effect will be larger on stimuli based price judgment, than for memory based price judgment.

Urbany et al (**1988**)in 2 experiments showed that if a higher reference price is added in an advertisement it makes the offer appear to be more valuable than if no reference price appears in the add. Moreover, they found that adding an extreme (high or low) reference price in an advertisement decreased believability (due to the skepticism), but increased market price estimates and perceived offer value.

Thus, an assumption can be made that consumers' internal reference price is influenced by a given reference price – if it is higher than the consumers' internal reference point, then their internal reference price should be displaced positively (upward). On the other hand, if the given reference point is lower than consumers' internal reference point, and then their internal reference point should be resettled downwards.

Moreover, it is strongly related to the way the reference price is presented – a price range. If the whole price range (from the lowest price to the highest price of an item) is presented,

consumers might get confused and base their decision on their previous purchase experience rather than on given stimuli.

Taking into account previous implications, it is important to know how size of reference price ranges and magnitude of the reference prices influence consumers' purchase behavior. In this research I will be studying how does presentation of price ranges (served as a reference price) influence consumers' willingness to pay.

2.2 HYPOTHESES

Hypotheses will be formulated in order to empirically test the influence of framing of the prices of reference products on consumers' willingness to pay in the online environment. Thus the proposed hypotheses should help answer the research question:

How does the framing of the prices of alternatives impact on consumers' willingness to pay?

Consumers tend to first judge the value of an offer and then make a decision. Thus the way the offer is presented can alter consumer's perception and following actions. The estimations of values start from reference value (*anchor*) (**Tversky and Kahneman, 1974**). Hence, if different reference values are presented in distinct frames, the decision consumers make will be altered differently regarding those reference values. Moreover, anchors alter consumers' choices to the direction of the anchors (**Simonson and Drolet, 2004**).In this study four scenarios are used and each contains different reference points (anchors). Those reference points (i.e. prices) will serve as an anchor to alter respondent's judgment. Those points will differ among the scenarios according to the *magnitude of price* and *size of the price range*.

Each of the scenarios will contain an anchor (products) of either a low price or a high price. According to the previous theory, respondents' reaction will be positive towards the direction of an anchor.

Thus I assume that willingness to pay will change according to the presented anchor:

H1a*: Reference products with low prices negatively influence willingness to pay (it decreases)*
H1b*: Reference products with high prices positively influence willingness to pay (it increases)*

Size of the product price range has an impact on consumers' purchase behavior. Nevertheless, Helson (**1964**) in his article about adaptation theory claims that due to different level of adaptation, consumers see the same price differently – for some it might seem 'high', for others 'low'. However, the given price is not too high or too low to be acceptable. Judgments of price acceptability involve a comparison with a range of acceptable prices stored in memory or encountered at the point of purchase. Again, ranges are person-specific, the width of acceptability differs: one consumer may see a price as 'acceptable high', while another consumer with a narrower range of acceptable prices may judge the price as 'unacceptable high' (**Lichtenstein et al, 1988**). According to Lichtenstein et al (1988), *acceptable price range* is "bound at the upper end by the highest price the consumer is willing to pay for a

product". Some consumers believe that price and quality are positively related, so this leads to the assumption that range of acceptable prices is higher than for consumers who do not believe in such a relationship. Thus the size of the given price range will have a different effect on consumers' willingness to pay: if it is small, consumers will be willing to pay less as they perceive a narrow range inversely related to the quality of a product and might choose the lower boundary of a range. If a price range is large, consumers' willingness to pay will increase, as they have more values to choose from and their quality perception will increase – they will choose the upper boundary of the range (closer to the maximum value).

H2a: *When reference prices lie in a small price range (i.e. €10), willingness to pay decreases*

H2b: *When reference prices lie in a large price range (i.e. €100), willingness to pay increases*

Framing effect might also be tested on quality perception. Perceived quality can be interpreted in many ways. Steenkamp (**1990**) distinguishes several uses of perceived quality; yet this study will use the perceived quality as Subject-Object Interaction. According to this theory "the quality judgment is formed by an individual consumer with respect to a certain product". The perceived quality consists of comparative, personal and situational factors. Thus comparability to other products, level of education and prior knowledge, and a goal of usage determines the perceived quality, but not the attribute information of the product. Since exposed scenarios emphasize reference products, respondents will judge their quality perception by comparison. I assume that magnitude of the reference price and size of the price range will positively influence respondents' product quality perception.

H3a: *Perceived product quality is positively influenced by the magnitude of the reference price*

H3b: *Perceived product quality is positively influenced by the size of the reference price range*

Every decision a consumer has to make is followed by uncertainty about the possible consequences of the action. Many theories claim that the "value of a risky prospect should lie between the values of the prospect's worst and best outcomes" (**Yang et al**). However, **Gneezy, List and Wu (2006)** in several experiments showed that people were willing to pay less for a decision under a risk than its worst possible outcome. For instance, respondents were willing to pay an average of $26 for a $50 gift certificate, but only $16 for a lottery that would ensure either a $50 or a $100 gift certificate which has equal probability. They called

this the *uncertainty effect*. **Yang et al,** replicating the experiment by **Simonsohn (2009)** in their research found out that participants in uncertain (*lottery*) condition were willing to pay less, than those in more certain (*gift certificate)* condition.

It is assumed that scenario with a range of high reference prices (serving as an anchor) will be perceived as less uncertain non-risky situation, thus respondents will evaluate it more positively and willingness to pay will increase. As opposite, scenario with the range of low reference prices (serving as an anchor) will be perceived as more uncertain risky situation, thus respondents will be willing to pay less. On the other hand, respondents might think that scenario with small reference price range is less risky, as there are not many options to choose from, thus they are not taking a risk to lose. Contrary to that, large range of reference prices might be seen as more risky, as it gives more values to choose from, thus respondents might be afraid to make the wrong decision.

H4a: *The perceived risk of product purchase will be higher in a scenario with low prices comparing to the scenario with high prices.*

H4b: *The perceived risk of product purchase will be higher in a scenario with large price range comparing to the scenario with small price range.*

"Decision confidence – the feeling of having done something correctly or incorrectly – is an important aspect of subjective experience during decision making, which increases for correct decisions and decreases for error decisions as the task become easier" (**Insabato et al, 2010**). Consumers are confident in their decision when they know that they paid a reasonable amount of money and in exchange get a good quality product or service. Another important aspect is the control of information presented to consumers; consumers prefer a low-complexity decision task, as it is more efficient use of information and lead to more efficient decisions (**Ariely, 2000**). Consumers have to be confident in the decision they have made and they should come up to a final decision with no big struggles, then the quality of the decision is high.

H5a: *Magnitude of reference prices has a significant influence on perceived decision quality*
H5b: *Reference price range has a significant influence on perceived decision quality*

Consumer familiarity to a product plays an important role in decision making process. According to Hoeffler and Ariely **(1999),** novice consumers who are less knowledgeable to a

product, determine on their preferences on the point of purchase (rely heavily on reference prices) and continue developing more stable preferences while gaining experience in the field. Moreover, Coupey et.al (**1998**) claimed that consumers with high product category expertise are less sensitive to framing effect during decision making process as they are more familiar with the market value and are able to estimate their willingness to pay easily, even without much additional attribute information. Thus, respondents, who are more familiar with camping, are more likely to have stable and clear preferences and will be less affected by the framing of the scenario. On contrary to that, less familiar respondents, who are uncertain about the product class, will be influenced more.

H6a: *Familiarity with product class has a significant influence on willingness to pay*

H6b: *Respondents who are more familiar with camping will estimate the price of the tent more accurately than respondents who are less familiar*

Table of hypotheses

H1a*: Reference products with low prices negatively influence willingness to pay (it decreases)*

H1b*: Reference products with high prices positively influence willingness to pay (it increases)*

H2a: *When reference prices lie in a small price range (i.e. €10), willingness to pay decreases*

H2b: *When reference prices lie in a large price range (i.e. €100), willingness to pay increases*

H3a: *Perceived product quality is positively influenced by the magnitude of the reference price*

H3b: *Perceived product quality is positively influenced by the size of the reference price range*

H4a: *The perceived risk of product purchase will be higher in a scenario with low prices comparing to the scenario with high prices.*

H4b: *The perceived risk of product purchase will be higher in a scenario with large price range comparing to the scenario with small price range.*

H5a: *Magnitude of reference prices has a significant influence on perceived decision quality*

H5b: *Reference price range has a significant influence on perceived decision quality*

H6a: *Familiarity with product class has a significant influence on willingness to pay*

H6b: *Respondents who are more familiar with camping will estimate the price of the tent more accurately than respondents who are less familiar*

2.2.1 Conceptual map
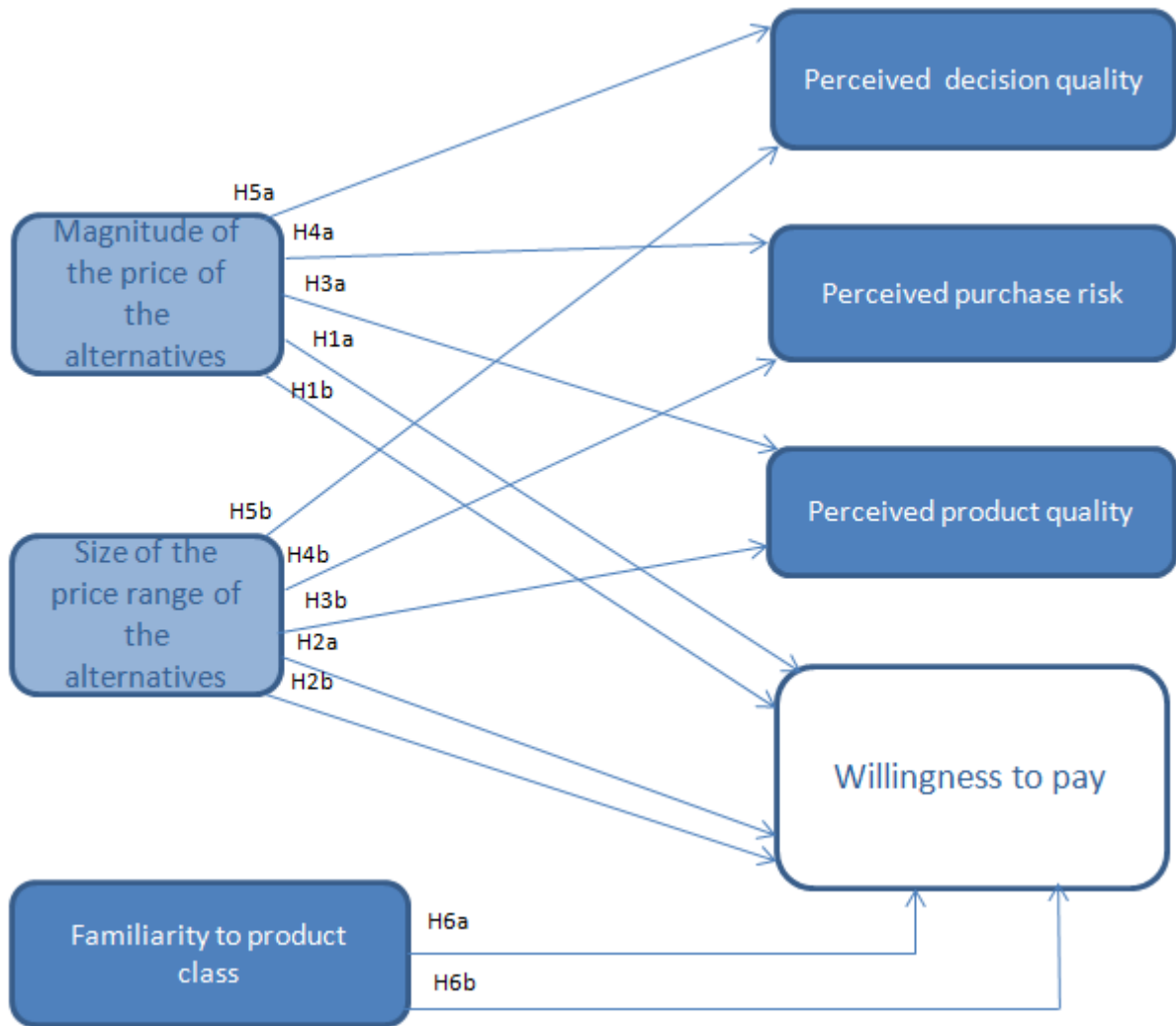
3. Methodology

In this chapter the methodology is described. The methodology part consists of the research design, experimental design, stimuli, sampling design and procedure, construct measurement, and the questionnaire design.

3.1. Research design

The structure of research design gives direction for a study as a guide to collect and analyze data. There are three main types research design: exploratory, descriptive and causal (Monroe College)[1]. Exploratory research (1) is done in order to collect information to develop hypotheses. Descriptive research (2) is used to describe the information of potential costumers (characteristics, certain behavior, demographics or differences between several groups). The major emphasis on causal research (3) is on investigating cause and effect relationships. The latter type of the research will be used in this study, as the main object is to examine the relationship between the framing of scenarios and its effect on consumers' willingness to pay.

There is little secondary data available covering the topic of the effect of different framing on consumers' willingness to pay conducted online; thus collecting the primary data is required to evaluate the framing effect on online community perspective. There are several ways to collect primary data. At this case experimental research is chosen. Croson and Gachter (**2010**) proposed definition is: "Experiments are a controlled data generating process". "Control" means the power to keep the factors that influence behavior constant (except the factor of interest); "date generating" refers to experimenters collecting (creating) their own data.

3.2. Experimental design

Kohavi et al (**2008**) defines several types of controlled experiments. In this study randomized controlled online experiment will be used.

There are two types of experimental design: between-subjects and within subjects (**Field and Hole, 2003**). In between-subjects design, a subject participates only once in one treatment. Opposite to that is a within-subjects experimental design, where a subject participates in multiple treatments (all conditions of experiment). Moreover, there are many mixed ("hybrid") types of experimental designs. Thus, between-subjects design will be applied in this study as respondents will be randomly confronted only with one treatment condition.

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[1]http://www.monroecollege.edu/academicresources/ebooks/9781111532406_lores_p01_ch03.pdf

3.3 Stimuli

In this study the changes in respondents' willingness to pay according to different framing will be measured. In a real life, when a person needs to make a purchase decision, s/he needs to decide on particular item (a perfect combination of characteristics and given value) and price one is willing to pay. This can be a difficult task, due to unstable preferences. Thus judgment of a product's value is expected to be susceptible to insignificant influences such as framing and anchoring. Thus the manipulation of differently framed scenarios with alternatives applied as an anchor will be used to investigate respondents' willingness to pay.

In this study **camping tent** has been selected as a product to test framing effect. Several tents will be used in the experiment: the main one that will stay the same in all the scenarios and several others used with different frames. The only product attribute manipulated in the stimuli is the price of the tents (except the main tent). No other product specifications or features related to the tents will be presented. Furthermore, pictures will not contain any brand images; otherwise it can interact and diminish the expected effect of framing. Only the price of the products will be present to make sure that only the willingness to pay is measured and nothing else.

Stimuli will be manipulated regarding the price of the tents. More specifically, price of alternative tents, not of the main product. Framing effect will be tested on two aspects of the price – magnitude of the price and size of the price range. These aspects of the price will change due to the extent of magnitude (low or high prices) and size of the range (small or large range). These aspects are selected because the expectation is that there will be a significant difference between them.

3.4 Manipulations

The main idea of framing is presenting the same information in a different way. To test that, several scenarios will be exposed to the respondents. The first scenario will be unframed and contain only the main tent without any alternative items (references); moreover it will be exposed to all respondents. This will show the 'real' value respondents would be willing to pay for the tent. The perceived product value would be based on their previous experience or familiarity level, but not on the references that might influence their decision.

Following is the example of the unframed scenario:

Figure 2: Unframed scenario
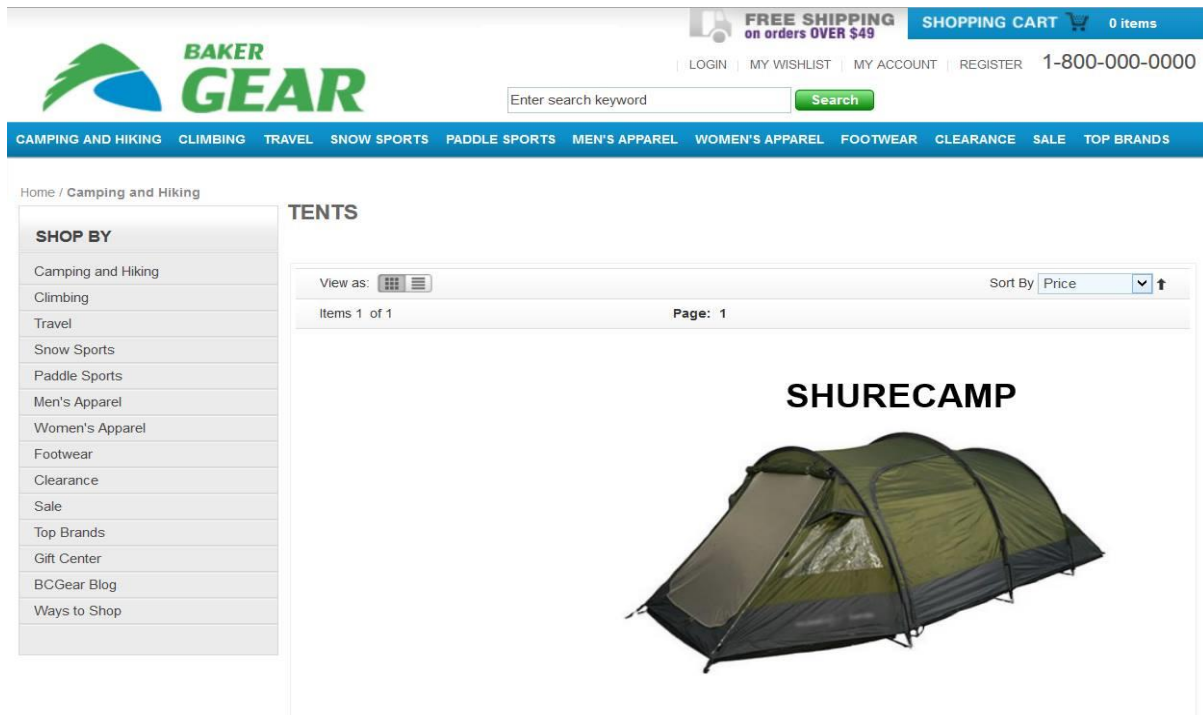
After the exposure of the unframed scenario, respondents will be randomly assigned to one of the framed scenarios. The distinction between the framing of the scenarios is the presence of alternative products that will serve as initial reference prices (arbitrary anchors). Even though the main product (tent) will have the same value in all scenarios, the alternative products will differ due to the magnitude of the price (small or large) and size of the price range (small or large). These frames are selected because it is expected that there will be a significant difference between them.

The following is the design matrix that is used to develop the scenarios.

Figure 3: Design matrix

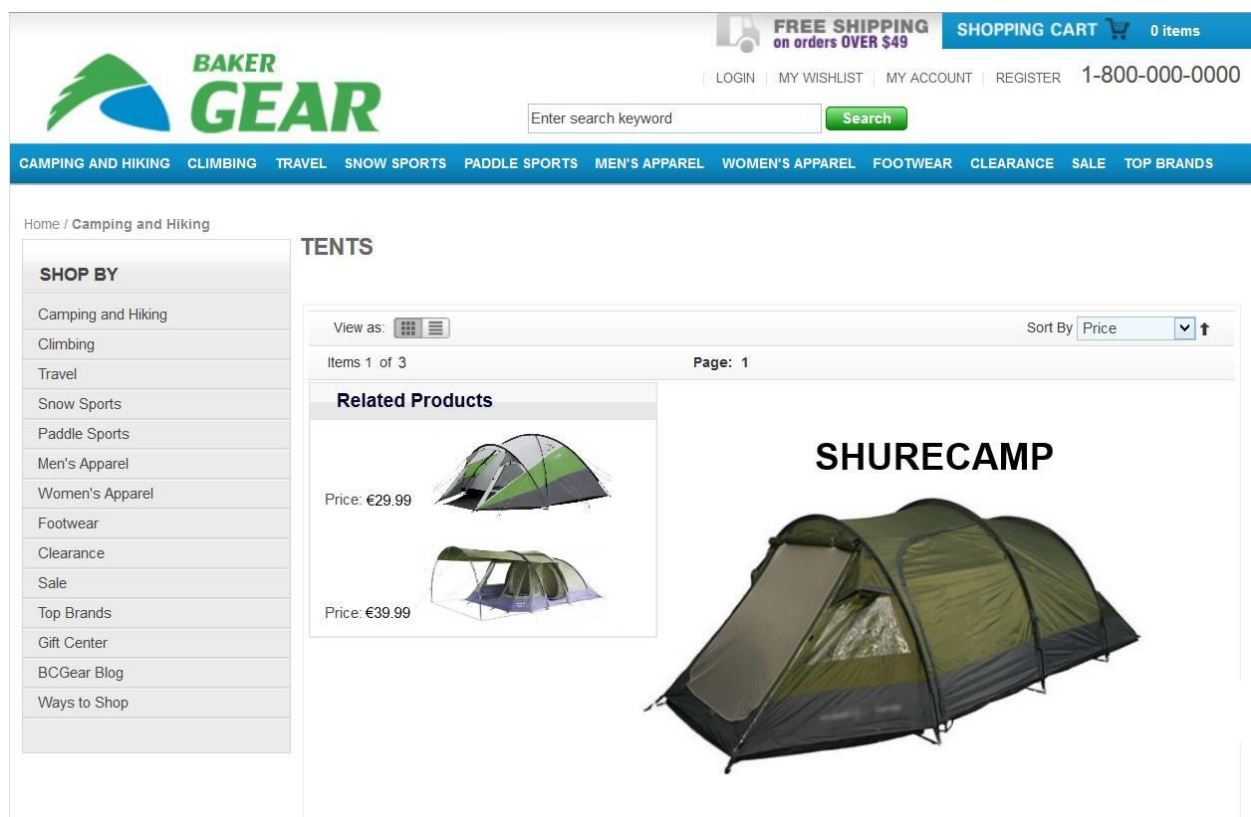|			
Size of the price range of the alternatives	Large	€19.99 &119.99	€349.99 &449.99
	Small	€29.99 & 39.99	€349.99 & 359.99
		Small	Large
		Magnitude of the price of the alternatives	

Each framed scenario will contain a picture of the main tent and two other alternative tents. As already mentioned before, the main tent will remain the same in all the scenarios. Each scenario will be randomly exposed only once to each respondent, in order to avoid the confusion. If respondents see that every scenario contains differently skewed prices, they might imply that they are 'cheated'.

The photographs of the tents are selected from the same online store www.perrysport.nl that was found while searching the web for tents. This point of purchase was chosen due to its wide range of camping equipment (including tents) and well-known brand name which is related to quality and relatively high prices (in the Netherlands). Prices of tents from perrysport.nl were taken into consideration, yet they were adapted to keep price ranges suitable for the experiment.
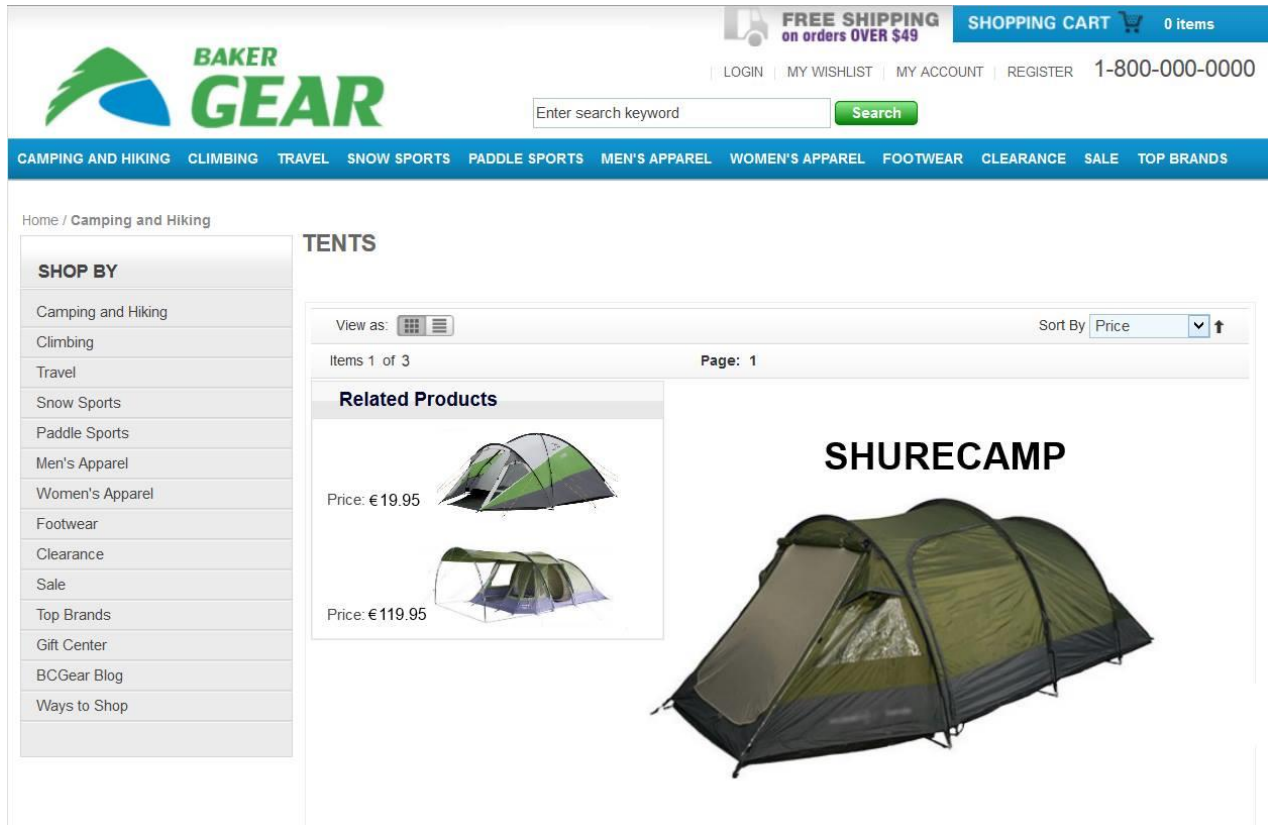
Experimental scenarios presented to the respondents were built up according to the previously discussed design matrix. The following are the examples of scenarios presented to the respondents:

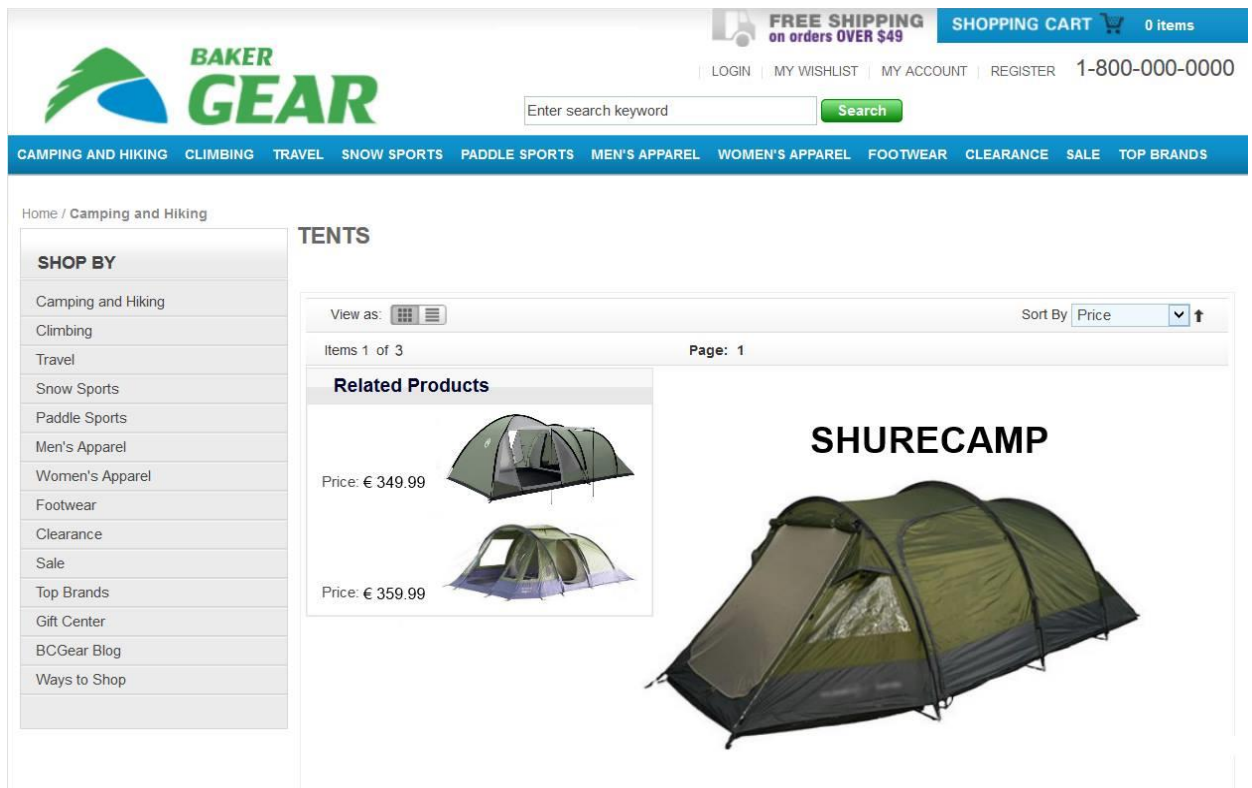**Figure 4: Scenario with low reference price and small reference price range**

Figure 5: Scenario with low reference price and large reference price range

Figure 6: Scenario with high reference price and small reference price range

Figure 7: Scenario with high reference price and large reference price range

3.5 Sampling design and procedure

There are several ways to collect the data from respondents: personal, online, email and telephone. Each method is applicable, yet online questionnaire method will be used in this research; basically because it is time and cost efficient, ensures immediate access to respondents and return of the data. The questionnaire is hosted by the website Qualtrics.com, because they offer the best service and possibilities for randomization and is free of charge (unlike other popular survey websites).

The aim of this study is to measure the effect of framing on consumers' willingness to pay, thus it is important that respondents meet certain criterion. The main screening criterion is that respondents should have some income – as their willingness to pay is measured, they should perceive the value of money. Since the study focuses on framing effect in the online store, targeted population should be familiar with shopping online. Moreover, it is expected that children might find it difficult to understand the constructs of the study, thus the research is focused mainly on participants above eighteen years old.

The distribution of the questionnaire is done by using non-probable sampling method (sample made up of people who are easy to reach), thus sending it to author's family, friends,

colleagues and other acquaintances through email and social media (e.g. facebook and/or linkedin). The participants will be kindly encouraged to forward the link of the questionnaire to as much potential respondents as possible. As long as they meet the required criteria, they are welcome to participate in the experiment. The minimum amount in the previous research (**Simonson and Drolet, 2004**) contained 50 participants per treatment. On the other hand the "rule of thumb"[2] states that 30 observations per treatment are enough. Thus, taking into consideration both examples, the minimum required amount of valid respondents should vary between 120 and 200. Thus, the aim of this research is 200 valid respondents.

3.6 Construct measurement

To measure each of the variables using a questionnaire, construct measurements have been used. In the questionnaire, proven measurement scales are used to ensure validity and reliability of constructs. The constructs measuring willingness to pay, framed scenarios and control variables have been chosen as follows.

3.5.1 Willingness to pay (WTP)

Market researchers estimate WTP in a few ways: from actual market transactions (revealed preferences, e.g. from scanner data) or from survey data (stated preferences). This variable is a ratio scaled measure of the value the buyer assigns to the item. Open-ended contingent valuation is an approach requiring respondents to state their WTP for in item or for attribute-level changes (**Wertenbroch and Skiera, 2002**). Authors used this evaluation technique in one of their experiments: they asked respondents to evaluate their WTP for a pen and alongside presented 2 other pens as a reference price. This method gives control to respondents, is clear and understandable. Moreover, it is easy to see the differences of influence among different scenarios.

3.5.2 Magnitude of the price of the alternatives and size of the price range of the alternatives

Independent variables are measured as the framed scenarios. Different magnitude of price (low price and high price) and size of the price range (small range and large range) of the alternatives are used to frame the treatments. Respondents are assigned only to one of the four scenarios, because of if they see more than once scenario, they might get suspicious and the responses become biased.

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[2]http://www.johndcook.com/normal_approx_to_t.html

3.5.3   Perceived product quality

Price of a product serves as a valuable extrinsic cue when additional information about the attributes is not available. Thus, for many people price is an indicator of quality, moreover when there is single-cue price-quality situation, subjects naturally demonstrate positive price-quality relationship (Dodds et al, 1991). Price-quality relationship measuring scale will be used to measure consumer's belief if there is a positive relationship between product and quality. To measure the ratio, the scale proposed by Lichtenstein et al (1993), which is proven to be reliable ($\alpha > 0.78$), is adapted to this research:

- Generally speaking, the price of a product is a good indicator of its quality.

Each respondent is asked to indicate their level of agreement toward the statement on a seven-point rating scale, ranging from 1 = strongly disagree to 7 = strongly agree.

The perceived value directly influences willingness to pay, thus perceptions of value would increase as price increases from below the buyer's lower acceptable limit to some acceptable price within their acceptable price range (**Dodds et al, 1985**). The level of perceived product quality is measured based on a measurement scale used by Dodds et al (**1991**) on several dimensions adapted to this research: reliability, durability, overall quality. The scale is proved to be reliable ($\alpha > 0.91$):

- The *tent* appears to be of a good overall quality
- The *tent* would seem to be durable
- The likelihood that the *tent* will be reliable is

Respondents have to evaluate their level of agreement toward each statement on a seven-point rating scale ranging from 1 to 7: for an overall quality 1 = very poor quality, 7 = very good quality, for durability 1 = strongly disagree, 7 = strongly agree and for reliability 1 = very low likelihood, 7 = very high likelihood.

3.5.4   Perceived product-category risk

Price of a product is an indicator for a product quality. Having in mind the idea that as price increases, the risk of incorrect evaluation increases and consumers are less familiar with the product due to rare purchases. Perceived risk is composed of functional brand-choice risk and emotional brand-choice risk (**Chaudhuri and Holbrook, 2002**). The level of product-category risk is measured using a scale based on Shimp and Bearden (**1982**), which is proven to be reliable with alphas between 0.86 and 0.75. The scale was adapted to this research and

respondents are exposed to two statements about the level of risk of the purchase of the tent. Then participants have to evaluate their level of agreement toward each statement on a seven-point rating scale ranging from 1 to 7.

3.5.5   Perceived decision quality

Post-decision regret is strongest at the end of the decision process. The final choice between alternatives is the most difficult to make, thus post-decision regret is maximal: the tendency to switch to other alternative is tempting (Milan Zeleny, Multiple criteria decision making). Especially, when the information about the attributes of the product is not available and product quality is uncertain. Thus, if consumer feels uncertain and unconfident about the task he/she has to make, this can influence the perceived decision quality. In order to test respondents' perceived decision quality, the degree, to which a person feels confident about the task he/she done, is measured. This will be done by adapting a scale implemented by Urbany et al (**1997**), which is proven to be reliable with alphas 0.93.

- How confident are you about the price you entered for the *tent*?

Respondents will be asked to evaluate their level of agreement toward the statement on a seven-point rating scale ranging from 1 = not confident to 7 = very confident.

3.5.6   Decision effort

Often consumers have to put much effort into making a purchase decision especially when they lack knowledge or experience and very little information about the product is available. In this research only the image of the product (tent) is given, thus it is interesting what is the degree of effort respondents have to put in order to estimate the price of a product. To test the level of effort, the adapted scale by Menon et al (**1995**), that is proven to be reliable, is used ($\alpha > 0.8$). Respondents will be asked to rate the level of difficulty of determining the price and amount of effort taken to completing the task. Each statement will be rated on a seven-point rating scale ranging from 1 to 7.

3.5.7   Consumer familiarity to product class

Some consumers might be into certain products or product class. They are familiar with it, have certain amount of knowledge and experience. In this research it is expected that the biggest number of respondents will not have a high level of familiarity. Yet, some might still be really knowledgeable and experienced in camping. In order to measure the respondents' familiarity level, some variables are tested. First of all, respondents have to respond if they ever possessed a tent. Then, the frequency of camping has to be determined. And lastly, test

the respondents' level of familiarity with camping. An adapted scale by Roehm (**2001**) is used, proven to be reliable ($\alpha > 0.96$).

- How familiar are you with camping?

Statement is rated on seven-point rating scale ranging from 1 = very unfamiliar to 7 = very familiar.

3.6 Questionnaire design

Since the research is not strictly limited to respondents from any particular country, the questionnaire is held in English.

The questionnaire starts with a short introduction, providing the respondents with some general information about the research, the structure of the questionnaire and clarifying that all the answers will be treated confidentially and anonymously. After the introduction, questions about the online purchase habits, tent purchase intention and if a respondent has possessed a tent are asked.

Afterwards respondents are confronted to the description of the condition and further directions. Then they move forward and face the first condition where only the main tent is shown (without related alternatives) and are directed to enter the amount they are willing to pay for that tent. In this way the participants have no prior knowledge nor are influenced by any reference points. Once respondents completed this task, they will be shown a text about the materials that tents are made of, just to distract them from guessing what the aim of the research is.

After completing this segment, the respondent will be randomly assigned to one of the four conditions. When the respondent viewed the given condition, he/she is asked to evaluate the willingness to pay one more time. This sections ends with two questions to see if the manipulations have worked as intended.

On the next page questions relating control variables are presented. Questions are asked in order to measure respondent's perceived risk of the product purchase, perceived product quality, confidence in making a decision and familiarity to the product class. These questions will help to expose the level of equality between the different respondent groups.

The last questions are about respondent's residency, origin, the number of residents of the same household, marital status, age, education level and income in order to control the demographic differences among the respondent groups. The last page is used to thank the

respondents for their time and effort and to encourage sharing the questionnaire link with others.

3.6.1 Manipulation checks

In order to check if respondents take the research seriously and honestly a manipulation checkup is included after the presentation of the framed scenario. The questions are designed in way to measure if the respondent has noticed the manipulation.

Do you think that the prices of two related products seen in the previous set reflect actual market prices?

Do you think that the Shurecamp tent and related tents seen in the previous set lie in the same price range?

3.6.2 Pre-test

The pre-test is aimed to control the content of the questionnaire and to see if randomization works with assigning the questionnaires to the respondents. The content of the questionnaire should be clear, realistic and easily understandable. The content of the provided information and visual material (photographs of tents and images of created website) should be perceived as clear, credible and realistic to all respondents, especially the ones who have a low level product class knowledge or familiarity. Moreover, manipulations are checked if they are working as intended.

This pre-test is performed by asking 9 people to complete the experiment online. The author of this research was next to them while respondents were filling the questionnaires and wrote down if they had any questions, struggles or other observations afterwards.

After the pre-test some questions and their measurements were corrected. Moreover, a text about materials that tents are made of is presented in between the scenarios, so respondents would get some distraction and would not start guessing the aim of the research.

The following is the structure of the questionnaire with different sections. The questionnaire can be found in appendix A.

Figure 8: Flow chart
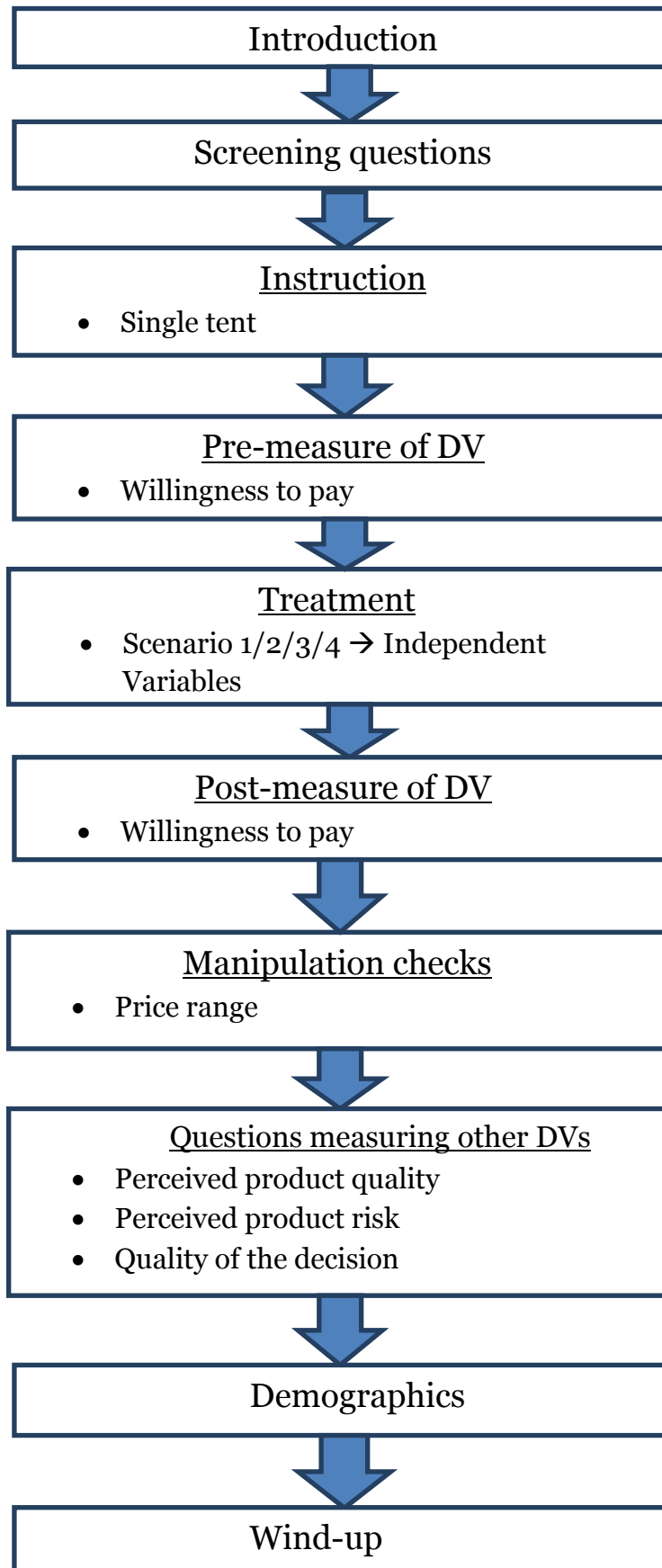
4. Data

This chapter describes the first part of data analysis. First the data cleaning process is described, and then descriptive analysis of the data, after that reliability and validity of each construct is tested. Finally, it is tested whether the experimental manipulations were successful.

4.1 Data cleaning

A total of 236 respondents participated in the research by filling in the online questionnaire. The data are obtained during the period from 08-06-2014 to 16-06-2014. Before the data could be used for analysis and results, a data examination must be done.

Some people did not complete the questionnaire, others had missing values – those were deleted from the dataset. First, 25 respondents did not finish the questionnaire, 6 respondents did not meet the screening requirements: 2 of them did not purchase products online and since this study contains the simulation of web store, those respondents were not taken into account; 4 respondents were younger than 18 years old, thus they do not work and do not have any personal income.

The most failures occurred in the part of manipulation checkups. The questions were presented to check if respondents were taking the questionnaire seriously and paid enough attention. 75.6% of the respondents answered whether they agree or disagree that the prices of presented actually reflect actual market prices. Even though the rest did not answer as expected, their responses will be used in the further analysis as the question was not crucial for the screening of the respondents. Moreover, some respondents have very little knowledge about the product class, thus these answers seem logical.

In the second part of manipulation check 34 respondents were deleted as they answered that they do not know if the presented prices and their estimated price are in the same price range. This means they did not pay attention to the prices of presented tents (given in the clear and actual range) and the price they have entered themselves. It might be that some respondents did not have enough knowledge or familiarity with product class. In other cases, respondents might have not filled in the questionnaires with enough attention and lost track of their own responses. It is not quite sure what were the exact reasons that some of the respondents did not understand manipulations as intended. However, it is not a big amount of total observations.

Furthermore, 8 respondents with non-realistic answers have been removed from the dataset. Non-realistic answers indicate that respondents marked average values in all scales and entered zero in both questions about willingness to pay.

At the end 163 valid respondents remained for the further analysis. The questionnaire was distributed randomly, but after deleting the incomplete questionnaires, missing values, the respondents that did not meet screening questions, and the respondents that did not perceive the manipulation as intended, the distribution became uneven. The following is the distribution of the respondents.

Table 2: Respondents' distribution

	Small magnitude and small price range	Small magnitude and large price range	Large magnitude and small price range	Large magnitude and large price range
Number of the respondents	39	41	42	41

4.2 Demographics

The last part of the questionnaire contained questions about demographic characteristics of the respondents. Several variables are measured to check the differences between the respondents and relationship with other variables. The first question shows that the majority of the respondents were male (57.1%). This result was expected, as most commonly men are more interested into outdoor activities as camping.

The question about the city the respondent is living in is used to determine whether it is a urban or rural area. This variable might have an influence on respondent's familiarity or experience towards camping. Major cities that hold 100 000 or more inhabitants were encoded as urban area and smaller cities as rural area. The majority of the respondents live in urban areas (90%). There is a significant difference in the outcome of willingness to pay between both groups, as respondents from rural areas are willing to spend more than the ones who live in major cities (when exposed to a single tent).

The age distribution of the sample is more skewed as expected. Respondents are mainly distributed in 2 age categories: from 18-24 years old (47.9%) and from 26-34 years old (47.9%).

Relationship status is distributed in 3 major groups: single (38%), married (14.1%) and being in a relationship (46.6%). There is no significant difference between the groups and willingness to pay for the tent (when exposed to a single product).

The number of people in the same house (the size of the household), varies in 4 groups: one person household (17.2%), 2 persons (35%), 3 persons (21.5%) and 4 people (18.4%). The size of the household does not strongly correlated with marital status (Pearson's r = 0.92). There is also no significance difference between two variables (p=0.092). Though, most commonly respondents are in a relationship and live together in one household (frequency=33).

11% of the respondents have kids: 16 in total, where 14 are married and other 2 are in a relationship. However, there is no strong correlation between marital status of the respondents and whether they have children (Pearson's r=0.140).

The level of education in this sample is distributed mostly in respondents who have obtained Master's degree (42.9%) and Bachelor's degree (47.2%).

Most respondents (42.3%) fall in the lowest group of income less than 1000 per month. 27.6% respondents earn 1001-2000 per month and 22.1% claimed to earn 2001-3000 per month.

The majority of the respondents live in the Netherlands (39.3%) or Lithuania (39.9%).

Table 3: Summary of demographics

	Description	Frequency	Percentage
Country of residence	Lithuania	65	39.9%
	The Netherlands	64	39.3%
	Germany	15	9.2%
	England	6	3.7%
	Luxembourg	6	3.7%
	Other	7	4.2%
Area of living	Urban	147	90%
	Rural	16	10%
Age	18-24 years	78	47.9%
	25-34 years	78	47.9%
	35-44 years	4	2.5%
	45-59 years	3	1.8%
Gender	Male	93	57.1%
	Female	70	42.9%
Size of the household	1 person	28	17.2%
	2 persons	57	35%
	3 persons	35	21.5%
	4 persons	30	18.4%
	5 and more persons	13	7.9%
Relationship status	Single	62	38%
	Married	23	14.1%
	In a relationship	76	46.6%
	Divorced	1	0.6%
	None of the above	1	0.6%
Education	High school	16	9.8%
	Bachelor degree	77	47.2%
	Master degree	70	42.9%
Personal net income	<€1000	69	42.3%
	€1001 – 2000	45	27.6%
	€2001 – 3000	36	22.1%
	€3001 – 4000	9	5.5%
	€4001-5000	2	1.2%
	>€5000	2	1.2%

4.3 Validity and Reliability of Constructs

Measurement scales used in this study have been proven to be valid and reliable, and have been used in past researches. However, some of them may differ due to the specific conditions of the study. To check the constructs on their reliability and validity, factor analysis is performed for each construct. Factor analysis is done to explore the underlying variance structure of a set of correlation coefficients, which is necessary to define if the items really measure a particular underlying variable. Moreover, item-to-total correlation will be measured to each item within a factor. This technique assumes that the total score of the factor is valid and the degree to which each item correlates with the total score is an indicator of validity for the item. Furthermore, the internal consistency for each factor is tested using Cronbach's alpha. Thus, based on these measurements it is determined if the scale is valid and if it can be used for further analysis.

First of all, each scale is tested with Bartlett's Test of Sphericity and Kaiser-Meyer-Olkin test, to see if it allowed conducting factor analysis. Kaiser-Meyer-Olkin measure is used to check the adequacy, and in order to be acceptable for the analysis should be 0.5 or higher. Sphericity is checked using Bartlett's test (sing. <.05). All constructs were checked with these tests and were appropriate for further analysis.

The reliability of Cronbach's alpha should be of 0.7 or higher, however not all the scales here correspond to that score. It might be due to the fact that constructs of scales were adapted from original ones – not all the scales were taken. Thus the number of questions is too small and scales within a construct are no longer interrelated – poor correlation between items.

In order to increase the reliability of constructs, some items should be discarded. After conducting the analysis, it was clear that variable 'Decision quality' was the least reliable. Thus after an additional revision one item ('amount of effort to determine a price') was discarded.

Although many items do not exceed 0.70, they are close to that value. The variable of perceived risk under the condition with 'large price range' is the least reliable ($\alpha = 0.581$). Ranging from 0.409 up to 0.862, the item-to-total correlation shows similar results for this variable. Moreover, the explained variance (ranging from 70.46% to 85.78%) meets the expectation of reliable measurements. No item-to-total correlation stands out and Cronbach's alpha cannot be improved by deleting an item, all items will be used for further analysis.

More detailed results of the reliability tests can be found in the following table (Table 4).

Table 4: Results of reliability tests

Dependent variables	Factor	Item	Item-to-total correlation	Explained variance	Cronbach's Alpha
Perceived decision quality	DQ Low Price	DQ-Difficulty	.506	75.30%	0.653
		DQ-Confidence	.506		
	DQ High Price	DQ-Difficulty	.427	71.35%	0.593
		DQ-Confidence	.427		
	DQ Small range	DQ-Difficulty	.465	73.25%	0.628
		DQ-Confidence	.465		
	DQ Large range	DQ-Difficulty	.510	75.50%	0.663
		DQ-Confidence	.510		
Perceived product quality	PQ Low Price	PQ-Overall quality	.647	77.16%	0.852
		PQ-Durability	.758		
		PQ-Reliability	.772		
	PQ High Price	PQ-Overall quality	.862	85.78%	0.916
		PQ-Durability	.828		
		PQ-Reliability	.808		
	PQ Small range	PQ-Overall quality	.757	80.10%	0.875
		PQ-Durability	.770		
		PQ-Reliability	.754		
	PQ Large range	PQ-Overall quality	.765	83.56%	0.900
		PQ-Durability	.824		
		PQ-Reliability	.826		
Perceived purchase risk	PR Low price	PR-Investment	.418	70.91%	0.590
		PR-Expense	.418		
	PR High price	PR-Investment	.414	70.68%	0.584
		PR-Expense	.414		
	PR Small range	PR-Investment	.424	71.22%	0.596
		PR-Expense	.424		
	PR High range	PR-Investment	.409	70.46%	0.581
		PR-Expense	.409		

4.4 Manipulation checks

The manipulation checkup contained 2 questions presented directly after the estimating the price of the tent. As previously mentioned in chapter 4.1 respondents who could not answer if the given prices of tents reflect actual market were deleted from the dataset. The remaining respondents answered correctly, thus presumably they perceived the manipulation as expected.

5. Results and Analyses

This study is aimed at evaluating the effects of framing on respondents. As discussed in previous sections, two independent variables will be discussed: *magnitude of the price of the alternative products* and *size of the price range of the alternative products*. These are the stimuli this research is mainly interested in.

First of all, it is important to get a clear image of what respondents have answered to the survey's questions. To do this, descriptive statistics need to be examined. By summarizing the results, and calculating descriptive statistics like *means* and *standard deviations*, the dispersion and distribution of the results can be obtained.

Secondly a paired sample t-test will be done. This will allow comparing the means of willingness to pay of pre-stimulus and post-stimulus. This way it is possible to see if there is an effect of the stimulus.

To test the relations between the variables four multiple linear regression analyses are conducted. Each of them tests the impact of several independent variables on one dependent variable (willingness to pay, perceived product quality, perceived product purchase risk, perceived decision quality). Regression analyses examine the relationship between dependent variable and more than one independent variable. By examining the *Beta's* and their significance, it is easier to describe the relationships between all the IV's and the DV. The models will be used to determine any significant relationships and to evaluate the relevant hypotheses. The R-squared measures the overall model quality, and its ability to explain variance of the DV. This general statistic is used to measure the quality of the model.

5.1 Descriptive on Dependent variables

This research focuses on four dependent variables: respondents' willingness to pay, perceived product quality, perceived product purchase risk and perceived decision quality. Since there are four conditions exposed to the respondents, it is interesting to see if the effect on the dependent variables is different.

The following is the design matrix used to develop the conditions (scenarios). The letters denoted between the brackets are used to refer to the given conditions.

Figure 9: Design matrix of conditions

Size of the price range of the alternatives			
	Large	€19.99 &119.99(**B**)	€349.99 &449.99(**D**)
	Small	€29.99 & 39.99(**A**)	€349.99 & 359.99(**C**)
		Small	Large
		Magnitude of the price of the alternatives	

Following table (Table 6) presents descriptive information of the dependent variables. The two tell us something about difference between the conditions: mean shows the average value of each DV and standard deviation (SD) indicates the amount of dispersion around the mean.

Each column represents one of the conditions the respondents were exposed to. First three rows demonstrate post-measure DV's (perceived product quality, perceived purchase risk and perceived decision quality). The last row shows the change of willingness to pay. This change is obtained by subtracting post by pre stimulus willingness to pay.

Respondents' product quality perception was the highest when they were exposed to the condition B (mean=4.83). On the other hand, respondents' perceived quality was also high when exposed to condition D. Both scenarios (B and D) contain large price range, presuming it can be the main factor judging the product quality.

Perceived product purchase risk was in average the highest with condition B (mean=4.73). Conditions C and D show the same results (mean=4.62), for both small price range and large

price range. This means for high prices, the size of the range of the reference prices, did not have any different results.

Perceived decision quality was the highest when respondents were exposed to condition A (mean=3.94). People exposed to this condition were more confident about the determined willingness to pay, compared to other conditions. On the other hand, high prices combined with a small price range, showed the lowest average perceived decision quality (mean=3.19).

The results show that WTP decreased by the biggest amount when respondents were exposed to condition A (small magnitude and small range). Scenario B just showed a very small effect on WTP, as it changed only by 0.80 Euro. Conditions with high prices - C and D - showed a different result than A and B. In table 6 is shown that condition D has the strongest effect, as WTP increased in average by 85.37 Euro.

Table 6: Descriptive on DVs

	Mean of condition with small magnitude and small range (A)		Mean of condition with small magnitude and large range (B)		Mean of condition with large magnitude and small range (C)		Mean of condition with large magnitude and large range (D)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Post Perceived product quality	4.418	0.94	4.83	1.033	4.67	1.25	4.75	1.03
Post Perceived purchase risk	4.38	1.09	4.73	.97	4.62	1.10	4.62	1.07
Post Perceived decision quality	3.94	1.10	3.83	1.33	3.19	1.16	3.3	1.27
Change in WTP (difference post and pre stimulus)	-16.67	37.91	0.80	38.367	45.48	61.265	85.37	81.834

5.2 Magnitude of the price of the alternatives

Magnitude of the price of the alterative products is the first independent variable that will be discussed. In this research magnitude of the price is expressed as a low or a high price of the reference products (tents). Since the respondents had to decide on their willingness to pay

twice (first time without any reference price and second with reference price), it is important to know if the reference price, more specifically its magnitude had an expected effect to the respondents.

In the hypotheses it was assumed that respondents' willingness to pay will change with the direction of the magnitude of the given reference prices – when the price is higher, willingness to pay should increase and vice versa.

In order to measure post stimuli effect, a *paired samples t-test* was used. The means of respondents' willingness to pay for the tent before and after the stimuli were compared. This shows whether the stimuli really had an effect and willingness to pay changed in the direction of the prices of the reference products.

First, the effect of a stimulus with low prices is measured.

Table 7: Willingness to pay, small magnitude of reference prices (small and large ranges)

	N	Mean	Std. Deviation
Pre- WTP	80	89.19	52.431
Post- WTP	80	81.48	43.268

The results suggest that respondents' estimated willingness to pay for the tent decreased after seeing condition with low reference prices. Willingness to pay decreased in average by €7.7. However, there is no significance as p value (.080) is more than significance level (p>0.05). Thus, we cannot say with enough degree of certainty the effect is real. The difference between the two means is not significant, thus the hypothesis H1a is not supported.

The magnitude of price could also be translated into different condition. Pre and post-stimulus means of willingness to pay were compared using the same *paired samples t-test*. Results are shown below.

Table 8: Willingness to pay, large magnitude of reference prices (small and large range)

	N	Mean	Std. Deviation
Pre-WTP	83	98.99	67.774
Post-WTP	83	164.17	97.423

The test measures the change in willingness to pay for the conditions where respondents were shown reference products with a high reference price. The test shows a significant difference in means, because p-value is less than 0.05 (p = .000). This tells us that there is a significant difference between pre and post willingness to pay. Referring to the hypothesis, found results

support the idea that willingness to pay increases when respondents are confronted with the high reference price-stimulus. Results shown above show an increase of willingness to pay of approximately €65. H1b hypothesis is supported.

Taking these findings into consideration, magnitude of the reference price has an impact on consumers estimated willingness to pay. The results suggest that when the prices of reference products are high, willingness to pay shows a significant increase.

5.2 Size of the price range of the alternatives

Size of the price range of the alternative products is the second major independent variable discussed in this study. In this research size of the price range is either small or large. Small range means the prices of alternative products vary within €10 and large range means the prices of alternative products vary within €100 interval.

The hypothesis states that respondents' willingness to pay will increase in the scenario with the prices in large range. As with measuring the effect of the price magnitude stimuli, *paired samples t-tests* were used. The means of respondents' willingness to pay for the tent before and after the stimuli were compared. This shows whether the stimuli really worked and willingness to pay has changed as predicted.

First, the effect of small price range is tested.

Table 9: Willingness to pay, small range of reference prices (small and large magnitude)

	N	Mean	Std. Deviation
Pre-WTP	81	86.93	59.358
Post-WTP	81	102.48	75.085

The test shows there is a significant difference in means, because the observed p-value is less than 0.05 (p = .022). This means the observed effect of the small price range-stimulus, on willingness to pay is significant. Moreover, the estimated prices have *increased* by an average of €15. However, it was hypothesized that willingness to pay in the stimuli with small price range would decrease. Thus, regardless of the significant effect, the hypothesis H2a is not supported.

Additionally, the effect of a stimulus with large price range was tested. The results presented below.

Table 10: Willingness to pay, large range of reference prices (small and large magnitude)

	N	Mean	Std. Deviation
Pre-WTP	82	101.34	61.604
Post-WTP	82	144.43	91.761

The test shows there is a significant difference between the found means, as p-values is less than 0.05 (p = .000). This means we can assume the stimulus had a real effect on the respondents' willingness to pay. Moreover, as expected and formulated in the hypothesis, willingness to pay has increased by an average of €43. Thus, hypothesis H2b is supported.

5.3 Direct effects on dependent variables

To measure the direct effects on dependent variables, four multiple regression analyses were conducted. The dependent variables which were examined are willingness to pay, perceived product quality, perceived purchase risk and perceived decision quality. It has to be noted that the variable for willingness to pay used in these regressions was a computed variable. By subtracting post- by pre-stimulus willingness to pay, the result represents the change in willingness to pay. The results of these regressions will be used to determine any significant relationships between IVs and DVs. Additionally, R-squared will be able to measure explained variance in the DV. Hence, it measures model quality.

Table 11: Multiple linear regression on DVs

		Dependent variables			
		WTP	Perceived product quality	Perceived purchase risk	Perceived decision quality
Independent variables	Age	.159*	-.058	-.008	-.070
	Education	.071	.074	-.011	-.070
	Income	-.085	-.088	.044	.163
	Perceived product quality	.152*		.408*	.009
	Perceived purchase risk	.032	.407*		.198*
	Perceived decision quality	.012	.009	.200*	
	Price magnitude	.512*	-.065	.046	-.250*
	Size of the price range	.177*	.044	.029	-.009
	Familiarity with camping	-.035	.080	.011	.313*
	WTP		.184*	.038	.014

N	163	163	163	163
R²	.372	.242	.241	.249

5.3.1 Effect on Willingness to pay

Based on the results of the regression analysis it can be claimed that both – magnitude and range of alternative prices have a significant influence on respondents' willingness to pay (β = .512, p = .000; β = .177, p = .007). As magnitude of the price increases, the willingness to pay goes up as well. The same effect was observed with an increasing price range.

Moreover, the perceived product quality has a significant effect on willingness to pay ($\beta = .152$, $p = .038$). This means that higher perceived product quality leads to higher willingness to pay.

Age also has a significant influence on willingness to pay ($\beta = .159$, $p = .035$), indicating that older people are willing to pay more.

5.3.2 Effect on Perceived product quality

It was hypothesized that the magnitude of the price and size of the price range of reference products have an impact on respondents' perceived quality of *Shurecamp* tent. Based on the results of the regression analyses it can be concluded that price magnitude has no significant effect on perceived product quality ($\beta = -.065$, $p = .454$). Thus, hypothesis H3a is not supported. Size of the price range also has no significant effect on perceived product quality ($\beta = .044$, $p = .545$). Hence, hypothesis H3b is not supported.

On the other hand the analysis showed that perceived purchase risk has a significant effect on product quality ($\beta = .407$, $p = .000$). Products that are perceived to be of high quality are perceived to be a risky purchase.

Furthermore, willingness to pay has a significant effect on perceived product quality ($\beta = .184$, $p = .038$). This shows that consumers' willingness to pay increases if the perceived product quality is high.

5.3.3 Effect on perceived purchase risk

It was hypothesized that perceived purchase risk would decrease as magnitude of the price increases. Yet, the found effect is reverse – as magnitude of the price increases, perceived purchase risk increases as well. However, price magnitude has no significant effect on perceived purchase risk ($\beta = .046$, $p = .594$). Thus hypothesis H4a is not supported.

It was hypothesized that perceived purchase risk will be higher as the price range increases. The effect appeared to be positive, yet there is no significant relationship between the variables ($\beta = .029$, $p = .692$). Hence, hypothesis H4b is not supported.

Moreover it is interesting to see that perceived decision quality has a significant influence on perceived purchase risk ($\beta = .200$, $p = .013$). Apparently, respondents feel more certain about their decision (perceived decision quality) as product purchase risk increases.

5.3.4 Effect on perceived decision quality

Based on the results of the regression, it is safe to say that there is a negative correlation which shows that when the magnitude of reference price increases, the perceived decision quality (level of difficulty in making a decision and confidence in decision) goes down (β = -.250, p = .003). Thus, hypothesis H5a is supported.

On the other hand, size of the price range has no significant effect on perceived decision quality (β = -.009, p = .901). Hence, hypothesis H5b is not supported.

Moreover, it is interesting to see that perceived purchase risk has a significant impact on perceived decision quality (β = .198, p = .013). As perceived product purchase risk increases, perceived decision quality increases as well.

Familiarity with the product class (i.e. tents and camping) also has a significant influence on perceived decision quality (β = .313, p = .000). So it is safe to say that respondents, who are more familiar with camping, are more confident about their purchase decision.

5.3.5 Effect of familiarity with product

It was hypothesized that familiarity with the product class would have an effect on willingness to pay. The results of the regression analysis showed that there is no relationship between the variables (β = -.035, p = .614). Thus, hypothesis H6a is not supported.

Furthermore, it was hypothesized that familiarity with camping will result in more accurate pre-stimulus price estimation (willingness to pay). Pre-stimulus means the exposure of only a main tent without reference products. In this way obtained answers appear to be the "cleanest", meaning not influenced positively or negatively by the stimulus. The pre-stimulus input was subtracted from the real world price of €150. This results in the accuracy of price determination for each respondent; the bigger the difference, the smaller the accuracy. The accuracy is then used as the DV in a linear regression with familiarity. This way it is possible to measure the relation between familiarity and the accuracy of price determination.

The results of the regression showed that respondents' familiarity to camping has no significant effect on their estimated willingness to pay (p = .444). Thus, hypothesis H6b is not supported.

5.4 Summary

Table 12: Summary of hypotheses

	Hypothesis	Result
H1a	*Reference products with low prices negatively influence willingness to pay (it decreases)*	Not supported
H1b	*Reference products with high prices positively influence willingness to pay (it increases)*	Supported
H2a	*When reference prices lie in a small price range (i.e. €10), willingness to pay decreases*	Not supported
H2b	*When reference prices lie in a large price range (i.e. €100), willingness to pay increases*	Supported
H3a	*Perceived product quality is positively influenced by the magnitude of the reference price*	Not supported
H3b	*Perceived product quality is positively influenced by the size of the reference price range*	Not supported
H4a	*The perceived risk of product purchase will be higher in a scenario with low prices comparing to the scenario with high prices.*	Not supported
H4b	*The perceived risk of product purchase will be higher in a scenario with large price range comparing to the scenario with small price range*	Not supported
H5a	*Magnitude of reference prices has a significant influence on perceived decision quality*	Supported
H5b	*Reference price range has a significant influence on perceived decision quality*	Not supported
H6a	*Familiarity to product class has a significant influence on willingness to pay*	Not supported
H6b	*Respondents who are more familiar with camping will estimate the price of the tent more accurately than respondents who are less familiar*	Not supported

6. Discussion of results

The previous chapter presented the outcomes of statistical analysis; this chapter will continue and provide insights and implications regarding the results. Each of the variables will be discussed separately.

6.1 Magnitude of the reference price

It was argued that the price magnitude of the reference products will have a direct effect on respondents' willingness to pay. More specifically, it was expected that respondents would decide on their willingness to pay by examining reference values (**Tversky and Kahneman, 1974**). Based on the results, it can be concluded that reference price magnitude has an impact on respondents' willingness to pay for the *Shurecamp* tent.

Moreover, it was claimed that the price respondents are willing to pay would change in the direction of the prices of the reference products. Analysis showed that comparing pre and post stimulus (conditions without and with reference products) respondents' estimated willingness to pay changed in the direction of the reference price. When the reference products contain high prices the willingness to pay increases significantly.

However, when exposed to the frame where reference products contained relatively low prices, respondents' willingness to pay decreases, however not significantly. While the frame with high reference prices does show a significant effect on willingness to pay. This difference can be explained in different ways:

- Respondents had little familiarity with camping equipment. The results showed that respondents evaluated their level of familiarity to camping in average 3.9 (on 7 point scale). Moreover, insignificant correlation ($p = .518$) shows that there is no relationship between familiarity respondents have towards camping and price magnitude of reference.
- Moreover, it must be mentioned, that there were two frames with low reference prices (presented in a small or a large range). Thus if respondents' pre-stimulus initial estimation was low, after the exposure of stimuli, their perceived "correct" value remained closer to the lower boundary or slightly decreased.

Thus the results indicate that in both frames, judgments of willingness to pay are susceptible by influence of reference price anchors. Moreover it is also a proof that such effects reflect the impact of limited cognitive capacity to the judgment process.

6.2 Size of the reference price range

The boundaries (extremes) of a price range create an anchor effect, because extreme values are more salient and more easily retrieved from the memory (Niedrich et al, 2001). This study showed that the sizw of the price range of the reference products has an influence on respondents' estimated willingness to pay. However, contrary to previous findings (**Volkman, 1952**), only framing that contained reference products within large price range (€100 interval) had an expected result – in this scenario willingness to pay increased after the exposure of the stimulus. In a large range, there are presumably more values to choose from, thus perceived product quality increases as well as willingness to pay.

It was expected that willingness to pay would decrease after the exposure of a small price range as respondents would choose the lower boundary of the range, meaning that they might have perceived the two given prices as almost equal. However, it appears that the treatment had a different effect and the estimated price increased significantly. It might be due to the fact that there were two frames with small range – with low (€19.99 & € 29.99) or high prices (€349.99 & €359.99). Thus, when respondents are shown a small range with high prices, willingness to pay increases as the "weight' of those 10 Euros becomes smaller and willingness to pay comes closer to the upper boundary.

6.3 Perceived product quality

Hypotheses suggested that perceived quality of *Shurecamp* tent will be influenced by both price magnitude and size of the price range of reference products. Neither magnitude of the price nor size of price range had an effect on respondents' perceived product quality. It might be due to the fact that respondents have found it difficult to judge the overall quality, reliability and durability of the *Shurecamp,* from only the prices of the related items. Even though some researches claim that price is one of the most important quality indicators, if a person is not familiar with a product class, it will not facilitate the quality judgment.

However, perceived product quality has a significant influence on respondents' willingness to pay. The obtained results proved there is a positive effect – when perceived product quality increases, respondents' willingness to pay also increases.

6.4 Perceived product purchase risk

Purchase decisions usually come with a degree of uncertainty about the actual value of a product and the market value-price of the product. High level of uncertainty leads to an increase of perceived product purchase risk, which might lead to a decrease of willingness to

pay or even a decline to purchase. The given results indicate that respondents perceive the purchase of *Shurecamp* to be more risky when the reference products are presented in a condition with high reference prices. It was expected that purchase risk is higher when reference prices are presented in a large range and obtained results proved this assumption is correct. However, neither reference price magnitude nor size of the reference price range has a significant influence on purchase risk. This may be due to the fact that the majority of the respondents are not familiar with the product category or are not intended to own any camping equipment, thus the risk perception becomes insignificant and has no power.

6.5 Perceived decision quality

It is implied that when respondents are confident in their decision, the quality of decision that was made increases. Moreover, given related alternative products should facilitate the process of price determination for *Shurecamp*, in this way increasing the perceived quality of the decision. The results of the analysis showed that reference price magnitude has a significant effect on participants' willingness to pay. The negative correlation between the variables gives an assumption that as price magnitude of the reference products increases, the perceived decision quality (level of difficulty in determining price of *Shurecamp* and confidence in determining the price) decreases. More specifically, respondents had most confidence in price they determined for *Shurecamp* when reference products were presented in ranges with low prices. This means that exposure to this condition facilitated their decision making process.

6.6 Familiarity

Familiarity to a product class should facilitate selection and purchase processes. It implies how knowledgeable and experienced consumers are. In this study it was expected that respondents will not be highly familiar to tents or other camping equipment. Results showed that 30% of the respondents consider themselves "somewhat familiar" with camping. It is interesting to see that even though many respondents consider themselves familiar with camping, very few actually responded to own a tent. This might mean that when going camping with a group of people, several tents are shared and there is no need to purchase a tent. Thus, level of familiarity to camping is not always dependent on possession of camping equipment.

It was also expected that if consumers are familiar to camping, their estimated willingness to pay for *Shurecamp* will be more accurate – closer to the real world price (€150). Unfortunately, the level of familiarity had no effect on estimated willingness to pay.

7. Conclusions

In this chapter the final conclusions and main findings are presented. Moreover, managerial implications are made, and limitations and future research are discussed.

7.1 Research summary

Despite the fact that framing of products' set in online stores is an important and relevant matter, there is very little research done on how a particular framing design can influence consumers' purchase behavior. There is even less or almost no knowledge in the field of online marketing about how specific features like the price magnitude and size of the price range of alternative (reference) products can alter consumers' choice. These results in all kind of strategies on how to compose (frame) the sets of online stores in order to make consumer choose particular product or influence to spend more.

The focus of this study is to create insights into the effects of framing and anchoring. It was researched whether price magnitude and size of the price range of alternative (reference) products have an impact on willingness to pay for the main product. Other key factors that should play a role in decision-making process are also taken into account. Goals of implementing the model (e.g. purchase behavior) may be affected by price magnitude of the reference products and the size of the price range those products lie in. The research focuses on finding the frame that proves to increase the perceived value of a product.

Furthermore, it is expected that differently framed reference products would have an influence on other factors such as quality perception of the main product, perceived risk to purchase that product and perceived quality of a decision made (confidence in determining the value). It is also suggested that familiarity to camping factor would play a major role in these affects: strong sense of familiarity would ensure positive perceived product quality, product purchase risk and perceived decision quality, which in turn should have a direct on dependent variable (willingness-to-pay). However, people that relate themselves to camping should not be impacted by the framing and should be able to estimate their willingness to pay more accurately (closer to the real world value). If consumers have little familiarity to product class, they would be influenced by the framing effect more.

The experiment manipulated variables price magnitude (i.e. small or large), size of the price range (i.e. small or large), perceived product quality, perceived product purchase risk, perceived decision quality and familiarity, to test what the influence on willingness-to-pay is.

7.2 Main findings

The main objective of this research is to find out whether the framing of reference products regarding their price magnitude and price range are likely to influence not only the willingness to pay for the main product, but also the perceived quality of the main product, perceived risk to purchase it and perceived quality in making a decision. The main findings are discussed below.

Willingness to pay for the main product is influenced more by the price magnitude of the reference products rather than the size of the range those products lie in. Especially if reference products contain high prices, the estimated value of the main product increases significantly. Another observation is that estimated value of the main product is the highest, when reference products are presented in a large price range containing high prices (€349.99 &449.99).

Framing the reference products regarding specific price magnitude or a price range, does not have a significant influence on perceived quality of the main product. Perceived product purchase risk is higher when alternative products contain high prices. Moreover, contrary to the expectation, purchase risk is higher when reference products are presented in a small price range. However, obtained results showed that frames that focus on price magnitude rather than size of the range, influences the consumers' perceived decision quality. Negative correlation means that if the price magnitude of the reference product increases, people are less confident in determining value of the main product as well as they find it more difficult to do.

Moreover, the perceived purchase risk of the main product and perceived decision quality (confidence in determining the value) do not have a direct influence on willingness to pay. Nevertheless, only perceived quality of the main product (not alternatives) positively influences respondents' willingness to pay. Meaning positively perceived quality of the product leads to an increased value estimation.

Even though it was expected that level of familiarity to camping would have a major impact on outcome, it appeared to have no significant influence.

7.3 Managerial implications

The insights of this research can provide marketing managers with new concepts and objectives on how to develop more efficient and beneficial sets of products in online stores. Particularly, how to manipulate different frames of alternative products and use them as an anchor to influence and predict consumer purchase behavior. Since it is difficult to succeed in online market, this possibility to influence consumers and increase the likelihood of success should be considered.

First of all, it is important to mention that framing of the product sets is a relevant topic for many industries operating online. Thus it is important to present products in an effective way. One of them could be introducing uncertainty by presenting alternative (reference) products from a significantly higher price range, giving a potential customer a notion of certainty about the product the vendor wants to sell. This research has showed that perceived decision quality (confidence and difficulty) was influenced when respondents were presented related products from a higher price range. If a vendor manages to successfully introduce uncertainty and undermine a customer's perceived decision quality, the vendor will be able to have more freedom in choosing a price (i.e. higher price), because a false notion of 'safety' was created. The given product is a safe haven.

Overall, these findings suggest that instead of relying on a passive approach of estimating the product value to target consumers and according to that settle the price, marketers should apply a more active role that requires analysis of the factors affecting consumers' value judgments. From theoretical and practical perspectives, it is interesting to examine the factors that determine the degree to which judgments of willingness-to-pay are dependent on anchors that are relevant in consumer purchase environment.

7.4 Limitations

Some shortcomings of this research project have to be taken into account. Thus, the following are the limitations of this study.

First of all, this study was conducted with a relatively small sample (163 subjects). The experiment contained 4 conditions, thus it was expected to receive at least 50 respondents to each of them. Therefore, it might be assumed that a larger sample for each condition would lead to more accurate and valid results of the study.

Another limitation is a sampling method. Due to the lack of time and resources, the easiest way was to recruit people that come more or less from the same population – students mostly.

Thus the method does not entirely represent the overall population. Sampling bias might occur, meaning that individuals may not have truly different characteristics.

The Internet has no borders and online stores can be reached everywhere worldwide. The vast majority of the respondents were located in the Netherlands or Lithuania. If more people from other countries would have participated, the results probably would be different. Moreover, most of the respondents claimed to live in an urban area. People from rural areas are presumably more familiar with camping, thus their participation would possible alter the results.

Another limitation is that no product attribute information (e.g. brand, size, using conditions) was used in the stimulus, only the price. For the purposes of the research, other product attributes were not taken into account, thus it is possible that for this reason participants of the experiment could not make adequate judgments and quit completing the questionnaire. In the real market, especially surfing the Web, it is really easy to find all the relevant information about the product, thus this influences consumer behavior.

Switching options is another drawback of this study. In the experimental design respondents had to assume they are interested in particular item, with no possibility to choose the alternative or reject the purchase. A setting with these options could have better reflected realistic consumer behavior.

When analyzing the obtained data, it would have been useful to have pre-stimuli measures of other dependent variables (e.g. perceived product quality) and compare them with post-stimuli results. This would allow conducting more accurate and informative analysis. Now only post stimuli results were measured. This type of one-shot experimental design, where respondents are measured pre- and post-test clearly have implications. Having a control group to measure pre-stimulus response and an experimental group to measure post-stimulus response, would enhance results.

Another technical limitation is a poorly designed measurement constructs. Even though all the measurement scales were taken from previously approved studies, they were adapted for this experiment using separate scales (not the whole construct). This lead to a low reliability and validity of the constructs of this study.

Finally, the general limitation of this study is that there has hardly been any research within a field of framing and anchoring, especially regarding price magnitude and price range for the

anchor products. There is still a lot to explore in this research area, thus it is likely that there are other factors outside the scope of this research that my influence the outcome.

7.5 Future research

The framing and anchoring effects have been studied for quite a long time now, but relatively little research has been done testing particular factors. Specifically in this study, the influence of price magnitude and price range of reference products (served as anchor) on willingness to pay for the main product was tested. Since the only product attribute used was price of a product, it could be researched whether adding attributes information (e.g. brand name, features) would have a different effect.

This research was done using between-subject experimental, thus it would be interesting to conduct the experiment using within-subject approach when each respondent is exposed to all the experimental conditions. This would check whether the framing and anchoring effects remain the same even when participants see more than one treatment.

As mentioned, time and resources were limited. This has forced to make decisions about the overall design of the research. The experimental design was randomized, but did not have a real controlled environment. There was no controlled group which could be measured for willingness to pay and to be compared to the experimental group, which would be exposed to the stimuli/treatment. The design as it was in this research did not, and this has implication for the internal validity. People shown the tent twice, respond differently and have a notion of a possible manipulation. This influences behavior and these kinds of changes in response can hardly be corrected through statistical methods. To further enhance the quality of results, the design should be improved by implementing either the Quasi Experimental design or the Randomized Controlled Trial.

Based on previous findings, it was decided to present only the extreme values of the price range for the reference products. An additional study could be done to examine the effect of price magnitude and full range of prices (with intermediate values). If consumers have a full range of particular values to observe, this might influence their value estimations.

In this study the main product (*Shurecamp* tent) was presented without any additional information (e.g. price, price range or brand name). Thus it might be interesting to see how respondents' estimations would change if the main product is also framed. For example, a pre-stimuli treatment could expose an image (like in this study) yet together with a range of possible real market prices. The real stimuli (together with reference products) would also

contain main product together with a price range. As in this study, more than one frame might be used for the manipulations.

Another interesting concept to study is willingness to accept (WTA). A study could focus on framing and anchoring effects, but this time using references as an anchor to estimate compensation a person is willing to accept in exchange for giving up some good. It would be interesting to see whether price magnitude and the size of the price range would have an influence.

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Appendices

Appendix A: Pre-test questionnaire

A pre-test questionnaire was used to examine the content of the questionnaire and to see if randomization works as planned. The biggest focus was put on making sure that the content, images and other features used in the questionnaire are clear, realistic, credible and easily understandable. Moreover, respondents were encouraged to give notes and remarks whenever they felt it was necessary.

Dear, Participant,
It is very much appreciated that you are willing to take approximately 10 minutes of your time to participate in this research project. A large number of participants is essential for the success of this research, which is necessary for my graduation.
There are no right or wrong answers, so please fill in this survey honestly and carefully. All the answers will be treated anonymously and confidentially.
For questions and/or remarks please contact me by email (388064jk@student.eur.nl).
Thank you for the participation!

JurgitaKanaukaite

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GENERAL QUESTIONS CONCERNING ONLINE AND TENT PURCHASE

1. How often do you buy products online?
   - Never
   - Rarely
   - Sometimes
   - Regularly
   - Often

2. Do you currently own or have ever owned a tent?
   - Yes
   - No

3. Are you planning to buy a tent any time in the future?
   - Yes, within 6 months
   - Yes, within 12 months
   - Yes, within 5 years
   - Yes, within 5 or more years
   - No, I don't think I will ever buy a tent

SECTION A

"Imagine that you are about to buy a tent from an online store. This tent is what you have been looking for a while – it is light and easy to assemble. It has a fixed groundsheet that is fully lockable and keeps all the bugs away. The space in the front of the tent can be used as an extra space to the belongings.

In the following you will see a photograph of the tent.

Please, enter how much you would be willing to pay to own the tent"

-Next Page-

4. How much are you willing to pay for the tent? (in Euro)
   /*textbox*/

-Next Page-

"Now some more information is added to the situation.
 Please, evaluate how much you would be willing to pay to own the tent"

-Next Page-

5. How much are you willing to pay for the tent? (in Euro)
   /*textbox*/

-Next Page-

6. Do you believe that given prices reflect the real market prices?
   - Yes, they certainly do
   - I think given prices are close to the real market prices
   - No, the prices of related products are far from the real market
   - I don't know

7. Do you think all given products are from the same price range?
   - Yes, all the prices vary in the same range
   - No, the main tent is in the different price range
   - I don't know

8. What were the prices of other given tents? (in Euro)
   /*textbox*/

-Next Page-

9. What helped you to determine the price (2nd time)?
   - Name of the online store
   - Picture of the main tent
   - Given alternatives
   - Previous experience
   - Other

10. It was easy to determine the price (2nd time):

Very difficult   1   2   3   4   5   6   7   *Very Easy*

11. I am confident with the price that I determined (2nd time):

Not confident   1   2   3   4   5   6   7   *Very confident*

12. The tent appears to be of good overall quality (2nd time):

Low quality   1   2   3   4   5   6   7   *High quality*

13. Considering the investment with a purchase of a tent, how risky would you say purchasing a tent would be?

Very risky   1   2   3   4   5   6   7   *Not risky at all*

14. Given the expense involved purchasing a tent today, how much risk would you say would be involved with purchasing a new tent?

Substantial risk   1   2   3   4   5   6   7   *Very little risk*

15. How familiar are you with camping?

Very unfamiliar   1   2   3   4   5   6   7   *Very Familiar*

16. What type of holiday do you prefer?

Not luxurious   1   2   3   4   5   6   7   *Very luxurious*

17. How often do you go camping?
    - More than once a year
    - Once a year
    - Once every few years
    - Less than once in every 5 years
    - Never

-Next Page-

18. What is your nationality?
    /textbox/

19. Which country do you live in?
    /*textbox*/

20. What city do you live in?
    /*textbox*/

21. How many people (including you) live in your current house?
    /*textbox*/

22. What is your marital status?
    - Single
    - Married
    - In a relationship
    - Divorced

23. Do you have any kids?
    - Yes
    - No

24. What is your age?
    - < 17 years
    - 18 – 24 years
    - 25 – 34 years
    - 35 – 44 years
    - 45 – 59 years
    - 60 – 75 years
    - > 75 years

25. What is your monthly net income? (in Euro)
    - <1000
    - 1001 – 2000
    - 2001 – 3000
    - 3001 – 4000
    - > 5000

26. What is the highest level of education you have obtained?
    - High school
    - Bachelor degree
    - Master degree
    - PhD

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Thank you for filling in this questionnaire! I would appreciate if you would forward it to your friends, it would help me a lot!

Appendix B: Final Questionnaire English version

In this example of the final questionnaire one of the scenarios is presented. Each of the scenarios is encoded; particularly this one has a code 1.1. The first digit indicates the magnitude of the price (low or high) and the second digit indicates the size of the price range (small or large). Thus here is presented a scenario with low prices (1) and small (1) price range of alternative products. Moreover, during the online experiment, respondents are randomly assigned to different codes (e.g. 1.1., 1.2., 2.1. or 2.2.) in order to randomize magnitude of the price and size of the price range.

The following figure demonstrates the flow chart of the questionnaire. The blocks are used in order to give a clear overview of the final questionnaire.
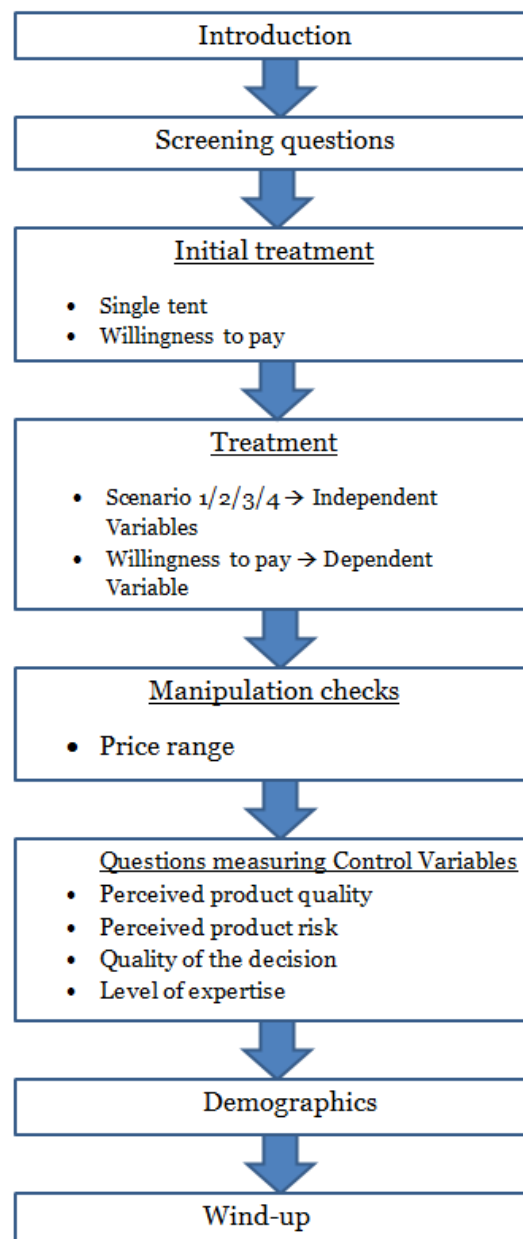
Introduction

Dear Participant,

It is very much appreciated that you are willing to take approximately 10 minutes if your time to participate in this research project. A large number of participants is essential for the success of this research, which is necessary for my graduation.

There are no right or wrong answers, so please fill in this survey honestly and carefully. All the answers will be treated anonymously and confidentially.

For questions and/or remarks please contact me by email (388064jk@student.eur.nl).

Thank you for the participation!

JurgitaKanaukaite

-Next Page-

Screening questions

27. How often do you buy products online?
    - Never
    - Rarely
    - Sometimes
    - Regularly
    - Often

28. Do you currently own or have ever owned a tent?
    - Yes
    - No

29. Are you planning to buy a tent any time in the future?
    - Yes, within 6 months
    - Yes, within 12 months
    - Yes, within 5 years
    - Yes, within 5 or more years
    - No, I don't think I will ever buy a tent

-Next Page-

Initial treatment

- Single tent
- Willingness to pay

Imagine that you are about to buy a tent from an online store. **Shurecamp** tent is what you have been looking for – it is light and easy to assemble. It has a fixed groundsheet that is fully lockable and keeps all the bugs away. The space in the front of the tent can be used as an extra space to keep the belongings.

In the following you will see a photograph of the **Shurecamp** tent.

Please, enter how much you would be willing to pay to own the tent.

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30. How much are you willing to pay for the tent? (In Euro)
    /textbox/

-Next Page-

Tent fabric may be made of many materials including cotton (canvas), nylon, felt and polyester. Cotton absorbs water, so it can become very heavy when wet, but the associated swelling tends to block any minute holes so that wet cotton is more waterproof than dry cotton. Cotton tents were often treated with paraffin to enhance water resistance. Nylon and polyester are much lighter than cotton and do not absorb much water; with suitable coatings they can be very waterproof, but they tend to deteriorate over time due to a slow chemical breakdown caused by ultraviolet light. (*Wikipedia*).

-Next Page-

Treatment

- Scenario 1/2/3/4 → Independent Variables
- Willingness to pay → Dependent Variable

31. How much are you willing to pay for the Shurecamp tent? (In Euro)
    /textbox/

-Next Page

Manipulation checks

- ### Price range

32. Do you think that the prices of two related products seen in the previous set reflect actual market prices?
    - Yes, they certainly do
    - I think the prices of related products are close to the real market prices
    - No, the prices of related products are far from the real market prices
    - I don't know
33. Do you think that the Shurecamp tent and related tents seen in the previous set lie in the same price range?
    - Yes, all the products vary in the same range
    - No, the Shurecamp tent is in the different price range
    - I don't know

Questions measuring Control Variables
- Perceived product quality
- Perceived product risk
- Quality of the decision
- Level of expertise

34. In the previous online store set with the presentation of two related products, what helped you to determine the price of the Shurecamp tent?
   - Name of the online store
   - Picture of the Shurecamp tent
   - Given related products
   - Previous experience
   - Other

All the following questions are regarding the previous online store set where Shurecamp tent and two related products were introduced:

35. How would you rate the level of difficulty of determining the price of Shurecamp tent?
Very difficult   1   2   3   4   5   6   7   Very Easy

36. How would you rate the amount of effort it took to determine the price of Shurecamp tent?
No effort at all   1   2   3   4   5   6   7   A lot of effort

37. How confident are you about the price you entered for the Shurecamp tent?
Very unconfident   1   2   3   4   5   6   7   Very confident

38. The Shurecamp tent appears to be of:
Very poor quality   1   2   3   4   5   6   7   Very good quality

39. This Shurecamp tent would seem to be durable:
Strongly disagree   1   2   3   4   5   6   7   Strongly agree

40. The likelihood that the Shurecamp tent will be reliable is:
Very low   1   2   3   4   5   6   7   Very high

41. Considering the investment with a purchase of a tent, how risky would you say purchasing a Shurecamp tent would be?
Very risky   1   2   3   4   5   6   7   Not risky at all

42. Given the expense involved purchasing a tent today, how much risk would you say would be involved with purchasing a Shurecamp tent?
Little risk   1   2   3   4   5   6   7   Substantial risk

Please evaluate the following:

43. Generally speaking the price of a product is a good indicator of its quality:
Strongly disagree   1   2   3   4   5   6   7   Strongly agree

44. How familiar are you with camping?

Very unfamiliar   *1   2   3   4   5   6   7*   *Very familiar*

45. What type of holiday do you prefer?

Very basic   *1   2   3   4   5   6   7*   *Very luxurious*

46. How often do you go camping?
    - Once in six months
    - Once a year
    - Once every few years
    - Less than once in every 5 years
    - Never

-Next Page-

Demographics

47. Gender
    - Male
    - Female

48. What is your nationality?
    /textbox/

49. Which country do you live in?
    /textbox/

50. What city do you live in?
    /textbox/

51. How many people (including you) live in your current house?
    /textbox/

52. What is your marital status?
    - Single
    - Married
    - In a relationship
    - Divorced
    - Separated
    - None of the above

53. Do you have any kids?
    - Yes

- No

54. What is your age?
   - < 17 years
   - 18 – 24 years
   - 25 – 34 years
   - 35 – 44 years
   - 45 – 59 years
   - 60 – 75 years
   - > 75 years

55. What is the highest level of education you have obtained?
   - High school
   - Bachelor degree
   - Master degree
   - PhD

56. What is your personal monthly net income (in Euro)?
   - <1000
   - 1001 – 2000
   - 2001 – 3000
   - 3001 – 4000
   - 4001 – 5000
   - > 5000

Wind-up

Thank you for filling in this questionnaire! I would appreciate if you forward it to your friends, it would help me a lot!

Appendix C: SPSS output

1. Multiple linear regression analyses

Coefficients[a]

		UnstandardizedCoefficients		StandardizedCoefficients			Correlations		
Model		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	-220.078	37.795		-5.823	.000			
	Age	17.472	8.203	.159	2.130	.035	.173	.170	.136
	Level of Education	7.634	8.052	.071	.948	.345	.119	.076	.061
	Personal Income	-5.475	5.103	-.085	-1.073	.285	.014	-.086	-.069
	Overal PerceivedQuality	9.917	4.729	.152	2.097	.038	.202	.167	.134
	Overall_Perceived_Risk	2.086	4.862	.032	.429	.668	.123	.035	.027
	Overall_Decision_Quality	.645	4.124	.012	.156	.876	-.124	.013	.010
	Magnitude	71.272	9.308	.512	7.657	.000	.523	.526	.491
	Range	24.704	9.035	.177	2.734	.007	.198	.216	.175
	Familiaritywith camping	-1.370	2.713	-.035	-.505	.614	-.042	-.041	-.032

a. DependentVariable: Price Delta

Coefficients[a]

		UnstandardizedCoefficients		StandardizedCoefficients			Correlations		
Model		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part
1	(Constant)	2.677	.670		3.995	.000			
	Age	-.098	.140	-.058	-.701	.484	-.045	-.057	-.049
	Level of Education	.122	.136	.074	.901	.369	.033	.073	.063
	Personal Income	-.087	.086	-.088	-1.009	.315	-.064	-.081	-.071
	Overall_Perceived_Risk	.414	.075	.407	5.525	.000	.443	.408	.389
	Overall_Decision_Quality	.008	.070	.009	.113	.910	.120	.009	.008
	Magnitude	-.138	.184	-.065	-.750	.454	.034	-.061	-.053
	Range	.094	.156	.044	.606	.545	.115	.049	.043
	Familiaritywith camping	.048	.046	.080	1.053	.294	.127	.085	.074
	Price Delta	.003	.001	.184	2.097	.038	.202	.167	.148

Dependent Variable: Overall Perceived Quality

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	1.825	.678		2.690	.008			
	Age	-.013	.138	-.008	-.093	.926	-.007	-.007	-.007
	Level of Education	-.018	.134	-.011	-.133	.895	.018	-.011	-.009
	Personal Income	.043	.085	.044	.508	.612	.033	.041	.036
	Overall_Decision_Quality	.169	.067	.200	2.512	.013	.242	.199	.177
	Cheap/Expensive	.097	.182	.046	.534	.594	.028	.043	.038
	Narrow/Wide	.061	.154	.029	.397	.692	.081	.032	.028
	Familiaritywith camping	.006	.045	.011	.139	.890	.134	.011	.010
	Price Delta	.001	.001	.038	.429	.668	.123	.035	.030
	Overal PerceivedQuality	.402	.073	.408	5.525	.000	.443	.408	.389

a. Dependent Variable: Overall_Perceived_Risk

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	2.829	.786		3.599	.000			
	Age	-.138	.163	-.070	-.847	.398	-.037	-.068	-.059
	Level of Education	-.136	.158	-.070	-.858	.392	-.038	-.069	-.060
	Personal Income	.188	.099	.163	1.898	.060	.114	.152	.133
	Cheap/Expensive	-.623	.209	-.250	-2.987	.003	-.256	-.235	-.209
	Narrow/Wide	-.023	.181	-.009	-.124	.901	.005	-.010	-.009
	Familiaritywith camping	.220	.050	.313	4.382	.000	.363	.334	.307
	Price Delta	.000	.002	.014	.156	.876	-.124	.013	.011
	Overal PerceivedQuality	.011	.094	.009	.113	.910	.120	.009	.008
	Overall_Perceived_Risk	.235	.093	.198	2.512	.013	.242	.199	.176

a. Dependent Variable: Overall_Decision_Quality