



International Master of Science in Business Administration
Master of Science in Advanced Marketing Management

**How does putting an item in a shopping cart/on a wish list influence
online shopping behavior?**

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Supervisor

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Management Summary

This thesis explores reasons for a phenomenon that has been perplexing online retailers but has received scant attention from scholars: online shopping cart abandonment. At the present time, abandonment rates are very high and represent a threat to e-businesses since they could mean the difference between selling and not selling.

The objectives of this research are to study, by means of an experiment, how the placement of items in a shopping cart/on a wish list impacts consumers' online shopping intentions. It was hypothesized that, the longer an item stays in the shopping cart/on the wish list, the less it is desired, as a result of increased conceptual consumption. This mediation of conceptual consumption is central to this research.

The experiment consists of two phases. The first phase entails a first survey, which included the between-participants manipulation of type of action (i.e. shopping cart, wish list and control). The second phase consists of a second survey, 3 days and 7 days after the first survey, where desire and conceptual consumption are measured.

Overall, no significant mediation effect was found for conceptual consumption in this experimental setting. However, the results suggest that conceptual consumption is a good predictor of desire, although in the opposite direction from what was hypothesized. Moreover, no significant interaction effects were found between the different treatment conditions (i.e. time and action). Despite the extant limitations (e.g. sample size, methodology), this thesis has contributed with relevant insights which could help when e-retailers fight against online shopping cart abandonment.

Preface

This thesis is the concluding phase of my International Master in Business Administration at Católica Lisbon School of Business and Economics and also of my Master in Advanced Marketing Management at Lancaster University Management School. Developing an academic thesis was a challenge with which I learned a lot. In this sense, my journey as a student ends exactly in the same way it began: willingness to learn. With regard to the subject, I am pleased to have written the thesis about a topic within my area of interest, which is marketing. Marketing was my specialization for the MSc level and being able to combine human behavior with management is a quite good opportunity. It is a privilege to deepen knowledge on why people do what they do.

I am very grateful to everyone who supported me during my education throughout these last five years.

Particularly, I would like to thank N.L. Mead PhD, my supervisor, for her availability, honesty, shared knowledge and motivation over the thesis' development period.

"Education is simply the soul of a society as it passes from one generation to another"

G.K. Chesterton (1924)

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1. Problem Indication

1.1 Problem Background

One recurrent consumer behavior that both academics and managers have begun to investigate is a persistent managerial and multi-channel concern: online shopping cart abandonment (Kukar-Kinney & Close 2010; Oliver & Shor 2003). Known as virtual, electronic or online shopping cart abandonment, this behavior can be defined as “consumers’ placement of item(s) in their online shopping cart without making a purchase of any item(s) during that online shopping session” (Kukar-Kinney & Close 2010). It has been suggested that the average online shopping cart abandonment rate is approximately 60%-75% (Goldwyn 2002; Eisenberg 2003; Oliver & Shor 2003; Gold 2007; Forrester Research 2009). For obvious reasons, this is an alarming trend for online retailers: they often lose sales due to online shopping cart abandonment. This problem has already been studied by researchers as a cause of other utilitarian and hedonic uses of carts besides the purpose they were designed for (to store items prior to immediate online purchase). Alternatively, one could look also approach it from a psychological perspective.

In the present research, online shopping cart abandonment is hypothesized to be a consequence of conceptual consumption. Conceptual consumption is psychological consumption that can occur independently of, and even supplant sometimes, physical consumption (Ariely & Norton 2009). Thinking about a product, imagining yourself consuming it and evaluating its features and benefits are examples of conceptual consumption. However, even though this problem in ecommerce has been receiving increasing attention by scholars, it has rarely been approached in a way that includes conceptual consumption. This is a blunder because conceptual consumption leads to perceptions of goal completion which, ultimately, results in a reduction of physical consumption. Empirical evidence of this can be found in the study conducted by Morewedge, Huh and Vosgerau (2010), which revealed that people who repeatedly

imagined eating a food subsequently consumed less of the imagined food. Does this happen in online shopping environments and with other sort of products? Is it that, the longer an item is in the shopping cart/on the wish list, the more it can be conceptually consumed (thereby, reducing consumption)?

In order to understand why online shopping cart abandonment occurs so often it is crucial to explore the purpose of online carts and also wish lists. Online shopping carts are virtual carts that online shopping websites provide customers so they can store items and buy them in that same online session, before they log out or close the browser. Wish lists are basically a tool online shopping websites offer customers to let them identify items of interest for a future purchase. Therefore, the concept of wish list is important to bear in mind because it is a step prior to the placement of an item in the shopping cart.

The online shopping behavior and psychological mechanism of interest in this thesis are online shopping cart abandonment and conceptual consumption, respectively. In other words, does online shopping cart abandonment happen because, when consumers put an item in a shopping cart, they desire it less because in their minds they think they have obtained the product?

1.2 Problem Statement

The following problem statement is the skeleton of this thesis:

How does putting an item in a shopping cart/on a wish list influence online shopping behavior?

1.3 Research Questions and Conceptual Framework

RQ1. How does putting an item in a shopping cart/on a wish list influence online shopping behavior?

RQ2. Does the time spent in the shopping cart/on the wish list moderate the relation between putting the item in the shopping cart/on the wish list and conceptual consumption?

RQ3. Does conceptual consumption mediate the relation between item placement in a shopping cart/on a wish list and online shopping behavior?

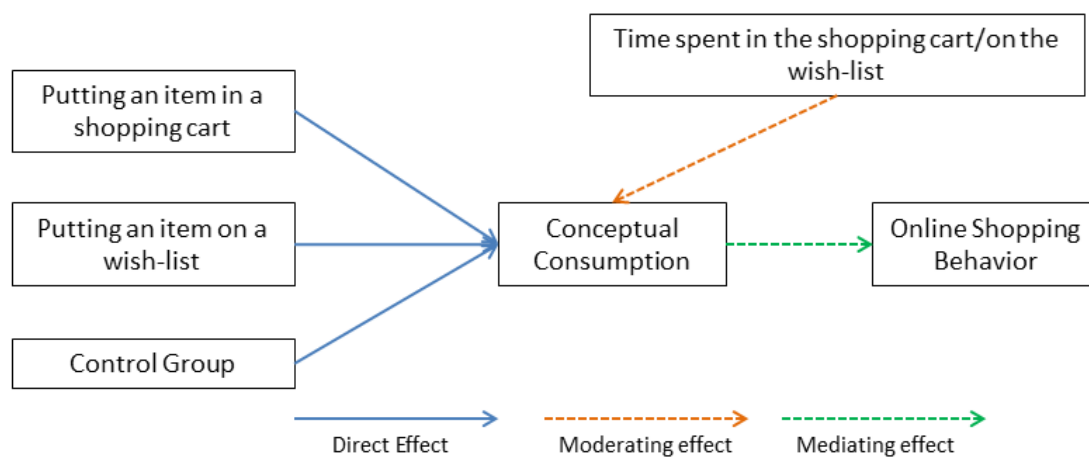


Figure 1 - Conceptual Framework

1.4 Relevance of study

From an academic perspective, this topic is relevant because it addresses how conceptual consumption may influence physical consumption (online shopping behavior) in an online environment. Conceptual consumption has been receiving increasing

attention from scholars but the study of its role on online consumer shopping behavior is scant. Therefore, this thesis addresses this gap on this field of study and provides scholars a possible explanation for attitudes-behavior incongruences, promising to bring additional insights to current understanding of human consumption.

From a managerial perspective, this topic is paramount because it addresses a main point in e-businesses: Why do consumers postpone their purchase or do not buy the product when everything pointed for it to happen? Why did not they buy the product if they showed interest in buying it and spent their own resources (e.g. time) in the whole process and, in the end, they did not buy it? Trade data suggests that each shopping cart abandonment occurrence represents, approximately, \$175 in lost sales to the online retailer (Mullins 2000). Hence, for practitioners, explanations of why “attitudes do not always translate into behaviors” (Chatzidakis, Hibbert & Smith 2007) could mean the difference between profit and loss and help in marketing practices to counter the (negative) effect conceptual consumption may have on physical consumption (and consequently on sales), reversing the shockingly high rates of online shopping cart abandonment.

2. Theoretical Framework

2.1 Overview

In this section of the thesis, the theoretical framework is presented. All constructs are described and hypotheses are developed based on a literature review. First, the concept of online shopping cart abandonment is deepened. Second, conceptual consumption is analyzed in a more vigorous way. Last but not least, the construct of time is introduced and further explained in terms of impact on this research. This chapter closes with a summary presenting the updated conceptual framework encompassing a visualization of the hypotheses on the model.

2.2 The Concept of Online Shopping Cart Abandonment

Despite placing items in online shopping carts, consumers frequently abandon them. The most noticeable consequence of this is lost sales of online retailers such as Amazon that invest large amounts of money, time and other resources to seduce the online customers to buy their products and services. Reasons for shopping cart abandonment may be different, as theories of online consumer behavior suggest (Close & Kukar-Kinney 2010). In order to understand the concept of online shopping cart abandonment it is important to explore online shoppers' perception of online carts, wish lists and the way they use them.

While traditional shopping carts (e.g. grocery carts) are utilitarian (i.e. they assist customers with gathering and storing items for immediate purchase), virtual carts, in contrast, may have other, hedonic uses (Kukar-Kinney & Close 2010). The same way ecommerce, marketing and retailing literature acknowledges both hedonic and utilitarian

motivations for online shopping buying and behavior (Arnold & Reynolds 2003; Bridges & Florsheim 2008) and the use of Internet in general (Papacharissi & Rubin 2000), these are also applied to online cart use behavior and wish list use. According to Close and Kukar-Kinney (2010), besides the current intention to purchase, other reasons explain the use of the shopping carts to place items, such as: securing online price promotions, obtaining more information regarding the product, organizing items to shop and pure entertainment. This is important because consumers might, for example, add the items to a shopping cart in order to get more information and end up consuming concepts and ideas about that product instead of buying the items. In this case, conceptual consumption supersedes physical consumption.

As a matter of fact, it is fair to say that the list of reasons for online shopping cart abandonment is practically endless. Besides the aforementioned, previous research found out several reasons for this phenomenon: perceived risk related to privacy, security issues, perceived waiting time (Moore & Matthews 2006; Rajamma, Paswan & Hossain 2009), time pressure, uncertain need, attitude toward online shopping (Cho, Kang & Cheon 2006), fun and enjoyment of the shopping experience (Babin, Darden & Griffin 1994), preference for traditional retail environment motivated by the impossibility to touch the product, difficulty in contacting customer service personnel and shipping issues in an online environment (Choi & Park 2006; Kaufman-Scarborough & Lindquist 2002), website infrastructure, trust in an online store, reputation of the online store and website design (Grabner-Krauter 2002; Moore & Matthews 2006). In other words, conceptual consumption is not the only possible reason for shopping cart abandonment. There are several other reasons but conceptual consumption will be the one examined throughout this research.

With regard to the wish lists, the fact that a consumer can decide whether to make his wish list visible to other users gives it another use, in addition to the one it is supposed to have (to identify items of interest for a later purchase). By making it visible to others, consumers may put items on a wish list not with the intention to buy the item later but for

others to see them – and wanting to see themselves – as interesting and unique (Tian, Bearden & Hunter 2001), thus, trading off physical consumption for conceptual consumption (in this case, social desirability).

In conclusion, what is important to remember is that, with this, there is no intention to say that online shopping cart abandonment is due exclusively to conceptual consumption. Rather, conceptual consumption is one of the many reasons why so many consumers abandon their online shopping carts.

2.3 Conceptual Consumption

Although consumption is essential and common, human consumption is tremendously diverse. Some physical consumption, such as food and water, is fundamental for basic survival and humans share this condition with other organisms. But humans go further and beyond meeting basic needs and even elaborate in the way basic consumption occurs – just consider the myriad brands of bottled water. When eating a cookie, the human psychology “turns on the engine” and a lot of questions hang over an individual’s mind: “How many cookies have I had today?”; “What my colleague is going to think if I eat now this cookie?”; “What kind of nutrients does this cookie have?” (Ariely & Norton 2009). Those are just some of the questions that may arise in a matter of seconds on a human’s mind. This mind-wandering stimulates conceptual consumption of the items.

Furthermore, previous studies (Morewedge, et al. 2010) showed that imagined consumption of a food decreased its subsequent consumption through habituation because it diminished the degree to which people wanted the food. That is, individuals who imagined consuming more of a food were subsequently less motivated to obtain it than were individuals who imagined consuming less of that food.

The premise is that when a consumer puts an item in a shopping cart he has interest in it. This assumption is supported by Close and Kukar-Kinney (2010) by defining electronic shopping cart use as “an online behavior in which a consumer places item(s) of ‘interest’ in an online shopping cart”. Then, from a logical prism, having interest in something is, largely, a result of being (or have been) thinking in that thing and imagined its consumption. Therefore, a consumer that places an item in a shopping cart thought more times in that item and imagined himself consuming it more times than a consumer that is merely navigating the website and seeing products. Mental representation alone can cause habituation to a stimulus which can lead to a decrease in its subsequent intake; habituation to a stimulus, in turn, can occur simply by imagining its consumption (Morewedge, et al. 2010). Thus, it is plausible that due to an intensive consumption-imagination process, when consumers put an item in a shopping cart/on a wish list, they desire it less because in their mind they believe they already have obtained the product.

From the theory discussed above in the different paragraphs, the following hypothesis is developed:

H1: Putting an item in a shopping cart/on a wish list reduces desire for that item.

2.4 Time

A past survey conducted by Nielsen in 2007 of US shoppers revealed that one of the primary appeals of online shopping is the possibility to save time, with 77% of respondents stating this. Time is the primary resource that consumers spend when shopping both online or in traditional retail settings (Bhatnagar, Misra & Rao 2000). The average American has less free time than ever in modern history (Comor 2000). Given that online shopping typically takes less time than traditional retail shopping (Bellman, Lohse & Johnson 1999; Rohm & Swaminathan 2004), and given that time is one of the most valued

elements of online shopping, there seems to be no evident reason why increased time in an online shopping cart would correspond to increased purchase likelihood. There would be no reason to delay consumption if the interest on buying the good is verified (which the condition of being in the shopping cart reflects) besides financial motives and others already mentioned before. Additionally, there is evidence that individuals (college students in the case of the study) are more likely to drop items off their online shopping carts if they tend to be confused by overchoice (Cho, Kang and Cheon 2006) and keeping items longer on the wish list/in the shopping cart is giving chance for overchoice to occur.

Previous research (Mead & Patrick 2012) shows that postponing consumption of a hedonic good reduces desire for and consumption of that hedonic item. Postponement refers to individuals putting off consumption until some future unspecified time and that is the underlying principle of putting an item on a wish list as we can see by the “welcoming statement” on Amazon’s wish list: “Remember stuff you want to buy later”. By deferring consumption to the future, the consumer allows the impulse to naturally decay over time and Mead and Patrick (2012) proved this with hedonic goods.

Indeed, in terms of conceptual consumption, it seems that there is more room (as a result of more time) for concepts to be consumed and opportunities for individuals to imagine its consumption. This notion of time to measure conceptual consumption is paramount because throughout the data collection and analysis it is the metric used to compare conceptual consumption between respondents in different conditions. It is expected that more time results in more opportunities to think about an item and imagine its consumption. Aligned with this, the study of Morewedge, Huh and Vosgerau (2010) defines habituation as the process by which repetitive imaginary consumption of a good leads to a reduction in its subsequent intake. Therefore, by keeping the item longer in the shopping cart/on the wish list there are more opportunities for individuals to imagine a consumption situation and repeat it mentally, thus, leading to a decrease in desire for and consumption of that good. Also, previous research has shown that deferring consumption to a future time reduces consumption of the postponed item (Mead & Patrick 2012).

H2: The longer the item stays in the shopping cart/on the wish list the higher the level of conceptual consumption.

H3: The longer the item stays in the shopping cart/on the wish list the lower the likelihood of consumers desiring that item as a result of increased conceptual consumption.

As mentioned before, adding an item to a shopping cart is expected to produce the same result as adding it to a wish list: reduced desire and consequent consumption of that item. However, the speed at which this occurs may be different according to the situation. Opportunity for conceptual consumption to occur may prove to be accountable for this difference. Following this line of thought, when an item is placed in a shopping cart rather than on a wish list there are more chances of a consumer engaging in conceptual consumption. By putting on a wish list, consumers postpone part of this experience; they identify the item as an interesting item but defer a big part of the engagement with the product to an ulterior period. This does not mean that there is no conceptual consumption when an item is placed on a wish list; it only means that the intensity with which it takes place is lower than when the item is in a shopping cart. Furthermore, on one hand, postponement (i.e. wish list) works as a cooling off period which reduces desire (Mead & Patrick 2012). On the other hand, putting something in a shopping cart is more prone to conceptual consumption of the goal.

H4: Putting an item in a shopping cart reduces desire for and consumption of that item faster than putting it on a wish list.

2.5 Theoretical Summary

The following visual representation (Figure 2) shows the complete conceptual framework (with hypotheses included) and can be interpreted as a visual summary of the theoretical structure of the research:

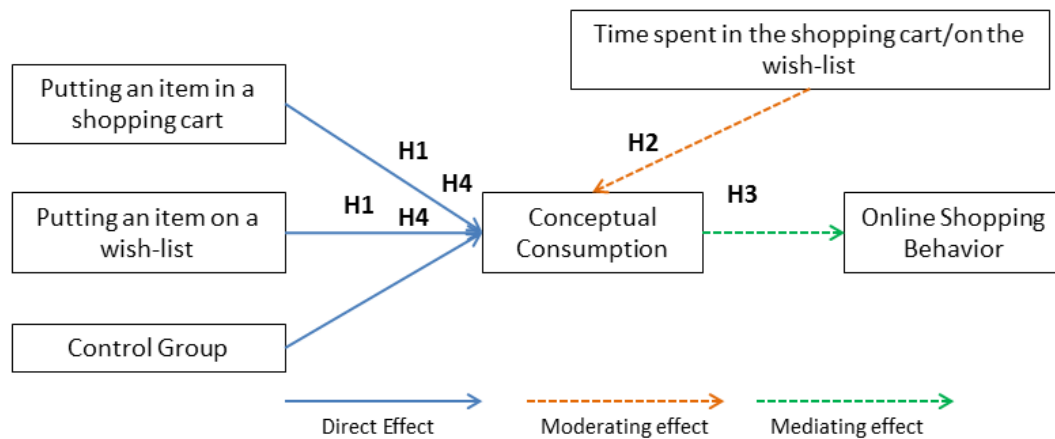


Figure 2 - Conceptual Framework with Hypotheses

H1: Putting an item in a shopping cart/on a wish list reduces desire for that item.

H2: The longer the item stays in the shopping cart/on the wish list the higher the level of conceptual consumption.

H3: The longer the item stays in the shopping cart/on the wish list the lower the likelihood of consumers desiring that item as a result of increased conceptual consumption.

H4: Putting an item in a shopping cart reduces desire for and consumption of that item faster than putting it on a wish list.

3. Empirical Methods

3.1 Overview

This section discusses the empirical part of the thesis, comprising the experimental design, the methods deployed and the overall procedure of the experiment. In sync with the online nature of the research topic, through an online experiment, the effect of conceptual consumption on online shopping behavior was assessed. In addition, important aspects of this experiment were the time manipulation (3 versus 7 days) and action manipulation (shopping cart versus wish list versus control) which allowed the assessment of differences in conceptual consumption and its practical implication for online shopping cart abandonment.

3.2 Participants and Design

The recruitment of survey participants was done through Amazon's Mechanical Turk (MTurk), which, according to Mason and Suri (2012), has emerged in the last 5 years for conducting online behavioral research. The final sample consisted of N=72 and the majority of the respondents were American (85%), female (71%), between 22-34 years old (58%), a Bachelor's Degree (42%) and all have purchased online at least once in the last two years. The participants were randomly assigned to three different experimental conditions (i.e. wish list, shopping cart, control). The participants were instructed to add items to their wish list, shopping cart or just read items' description, respectively to the conditions mentioned above. Moreover, they were later assigned randomly in to either the 3 days or 7 days condition. This manipulation of time implied that participants answer a second survey after 3 days or 7 days after the first survey, respectively. Thus, the experiment was a 3 x 2 between-participants design and allowed the assessment of

potential differences in online shopping behavior in different conditions, with online shopping intentions as the dependent measure.

3.3 Manipulations

The action manipulation was achieved by separating respondents by the three experimental conditions longitudinal study (appendix A). The time manipulation was carried out by means of a longitudinal study, consisting of a second survey (appendix B), distributed mutually exclusively 3 days and 7 days after the first survey.

The dependent measure was performed by assessing desire to buy the items if they could afford them (which was measured using a seven-point scale: 1 = Not Very Interested; 7 = Very Interested) and its conceptual consumption (which was measured by asking respondents the amount of time they realized they were thinking about the products and/or imagining its consumption: “Never thought – 0 times”; “1 to 2 times”; “3 to 4 times”; “5 to 6 times”; “7 to 8 times”; “More than 8 times”) at different stages and conditions after the first survey. Throughout the experiment, MTurk was the bridge between the researcher and the respondents and Qualtrics was the program used to design the surveys.

3.4 Procedure

The experiment consisted of two surveys designed using Qualtrics and then exported to MTurk. Both surveys took, approximately, 2 minutes to complete and were distributed online via MTurk in a task that contained a link to the survey. All circumstances of all the three conditions were equal with regard to the experimenter and context of the research.

The experiment comprised two different surveys:

First Survey

The respondents were invited to complete a task in which they would answer a survey. This survey asked respondents to add items to their wish list, shopping cart or simply read items' description. Participants were randomly assigned to one of these three conditions: shopping cart group, wish list group, control group. Participants were asked to view two hedonic items and two utilitarian items. The items were selected following the criteria and description of hedonic and utilitarian goods by Ratneshwar and Mick (2004) and a restriction was made for all the items to be within a similar price range (below \$80). Hedonic goods are multisensory and provide for experiential consumption, fun, pleasure and excitement (e.g. flowers, designer clothes, music, sports cars, luxury watches and chocolate). On the other hand, utilitarian goods are predominantly instrumental and their purchase is motivated by functional product aspects (e.g. microwaves, detergents, minivans, home security systems and personal computers) (see Ratneshwar & Mick 2004). The hedonic items chosen were a Sherlock Holmes DVD ("A Game of Shadows") and Milka chocolate bars. The utilitarian items were a Haier microwave and a universal car mount holder for cellphones, GPS and multimedia players. Therefore, the choice of these items is aligned with the above definitions. Then, participants were asked to indicate their desire to buy the items if they could afford them. Moreover, few questions about their perception of shopping cart's/wish list's use (whether they use it to buy something at the moment and keep record of products to buy later, respectively) and their own personality were included (e.g. whether they feel that, somehow, they already have taken something out of the items when they add them to the shopping cart/wish list and whether they think twice before buying something).

The survey concluded with questions regarding some demographics such as age, gender, educational level, total income and nationality. Also, the last 4 digits of their cell phone number were requested, which was used together with the participant ID to trace

them back for the second survey. It was stressed that those 4 digits would have no use for any purpose other than this experiment.

Second Survey

Either 3 days or 7 days after the first survey, the same participants were asked to answer a second survey. Participants did not know they would be contacted again, it was a surprise follow-up. They were contacted by the experimenter through a feature in MTurk (“Bonus Worker”) in which the experimenter can pay a certain amount of money to the participant as a bonus and include a message along with it. Thus, through this feature, the experimenter included a message asking the participants to answer a second survey which they had access by clicking on the survey link.

Half of the sample completed the survey 3 days after the first survey and the other half completed the same survey 7 days after the first survey. This was ensured through a close monitoring of the first survey and guaranteed by the 4 digits number they placed at the end of the surveys. The data was broken out in the 3 different condition groups (wish list, shopping cart and control) so, in other words, half of each one of the 3 groups answered after 3 days and the other half 7 days after the first survey. This way, mutual exclusivity of answers was safeguarded and between-participants design ensured for this phase.

The survey contained the same question included in the first survey concerning the purchase intentions for the items, which were assessed by measuring the desire to buy the items, as aforementioned. Moreover, as mentioned before, it also asked participants to mention how often they realized they were thinking about the items they added to the wish list/shopping cart since the first survey. Other questions regarding the frequency they visited their wish list/shopping cart (measured using a seven-point scale: 1 = Never; 7 = Very Often), details about the exposure of their wish list (whether it is visible for others to see) and online shopping cart abandonment (measured by asking respondents if they bought online any of these products, or similar, since they answered the first survey) were

asked. In this latter case, this measure of shopping cart abandonment was not used because almost the entire sample did not proceed with the purchase of the products (ceiling effect occurred, regarding shopping cart abandonment). The perspective that took place was that shopping cart abandonment was already a given fact and desire to buy the items was used as a precursor of this phenomenon.

4. Results

4.1 Overview

In this part of the thesis the results of the analyses are presented. The hypotheses aforementioned were tested and this section shows the conclusions that can be taken from the analysis and interpretation of the data. A distinction will be made between purchase intentions and conceptual consumption of the items in general and purchase intention and conceptual consumption of each individual item. The target sample size was originally $N=240$. However, the final sample consisted of $N=72$. This is because there was a large attrition rate from the first survey to the second survey. This represents an attrition rate of 70% which is marginally smaller than the average attrition rate of 74% for an average survey with incentives and follow-ups (<http://www.peoplepulse.com.au/Survey-Response-Rates.htm>). Still, this does not cancel the fact that the analyses presented hereafter are underpowered. Due to time constraints it was not viable to repeat the experiment. Thus, it was only possible to use those 72 respondents of the 240 respondents from the first survey, as it implied a follow-up later on. This might have affected the analysis as the power of the statistical tests was perhaps too low to detect statistical significance.

As a starting point, it was important to determine whether there were any significant differences between the means of desire to buy the items amongst the different action levels (wish list, shopping cart and control) at the first stage (first survey). The dependent variable (desire to buy the items) was computed as the average desire regarding the four items. As determined by a one-way analysis of variance (ANOVA), the means were the following: control ($M=3.13$, $SE=.22$), wish list ($M=3.01$, $SE=.29$) and shopping cart ($M=2.85$, $SE=.23$). However, there were not significant differences in the mean of desire to buy the items between groups ($F(2,69)=.30$, $p>.05$).

4.2 Hypothesis 1 (H1): Putting an item in a shopping cart/on a wish list reduces desire for that item

4.2.1 All the four items together (DVD, Microwave, Chocolate, Car Mount Holder)

By means of a 2 (3 days versus 7 days) X 3 (wish list versus shopping cart versus control) ANOVA, it was possible to examine the influence of different independent variables (time condition/type action) on one dependent variable (desire to buy the items – purchase intention) and compare the means of desire to buy (purchase intention) in the different experimental conditions. The dependent variable (desire to buy) was approximately normally distributed for each combination of levels of the two independent variables as the null hypothesis of normality of Shapiro-Wilk test was not rejected ($p>.05$). This dependent variable was computed as the average desire regarding the four items. There was homogeneity of variance between groups as assessed by Levene's test for equality of error variances ($p=.95$). Indeed, there was no significant interaction between the effects of time and action type on desire to buy the items ($F(2,66)=.42, p>.05$). Furthermore, there were no significant differences in desire to buy the items between different time conditions ($F(1,66)=2.35, p>.05$) or between action levels ($F(2,66)=1.36, p>.05$). If differences were significant, the means of desire to buy the items were the following: (wish list 3 days: $M=3.38, SE=.37$; wish list 7 days: $M=3.46, SE=.37$)(shopping cart 3 days: $M=2.86, SE=.37$; shopping cart 7 days: $M=3.42, SE=.37$)(control 3 days: $M=3.38, SE=.37$; control 7 days: $M=4.10, SE=.37$)(see Figure 3).

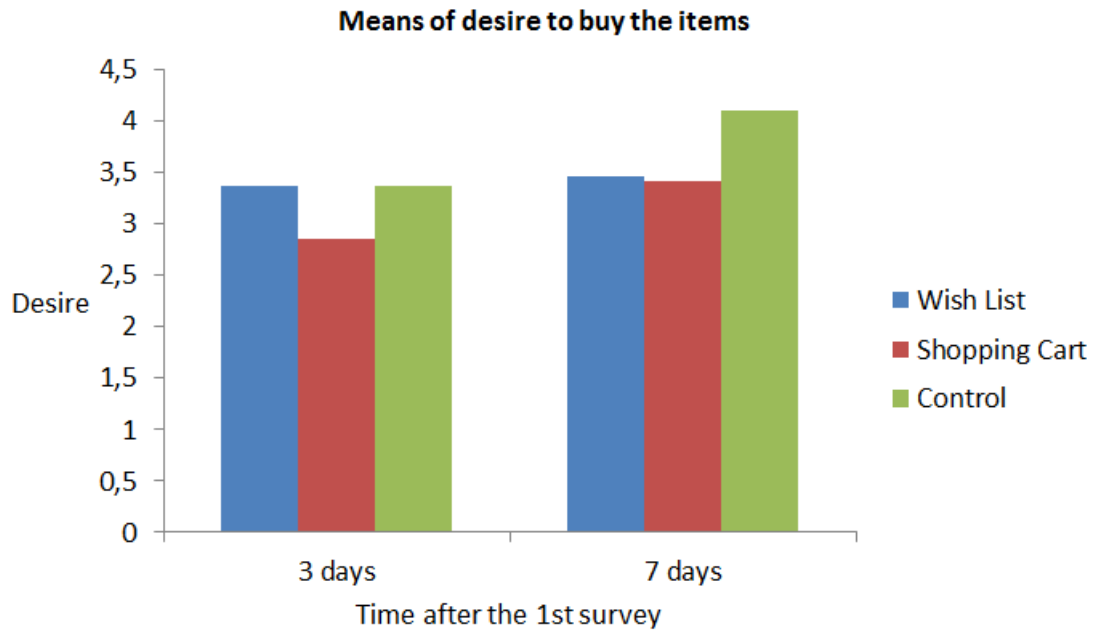


Figure 3 – Means of desire to buy the items

This result may be due, among other explanations, to the fact that the items did not fit well with each other because of their opposite nature (hedonic versus utilitarian). To assess if this contributed for this result, a reliability analysis between the two types of items was conducted. The desire to buy hedonic items and utilitarian items appeared to lack internal consistency ($\alpha=.53$). Thus, the items did not fit well together and a separate analysis between the different types of items would be expected to produce more significant results.

4.2.2 Hedonic items (DVD, Chocolate)

Preliminary checks were conducted to ensure normality of distribution ($p>.05$) and homogeneity of variances ($p=.60$). A new variable was computed which was the mean desire for hedonic items (DVD, Chocolate). There was no significant interaction between the effects of time and type of action on desire to buy hedonic items ($F(2,66)=1.02, p>.05$).

Also, there were no significant differences in desire to buy hedonic items between different time conditions ($F(1,66)=1.71, p>.05$) or between action levels ($F(2,66)=.28, p>.05$). If differences were significant, the means of desire to buy hedonic items were the following: (wish list 3 days: $M=4.42, SE=.47$; wish list 7 days: $M=4.29, SE=.47$)(shopping cart 3 days: $M=3.46, SE=.47$; shopping cart 7 days: $M=4.67, SE=.47$)(control 3 days: $M=4.17, SE=.47$; control 7 days: $M=4.58, SE=.47$)(see Figure 4).

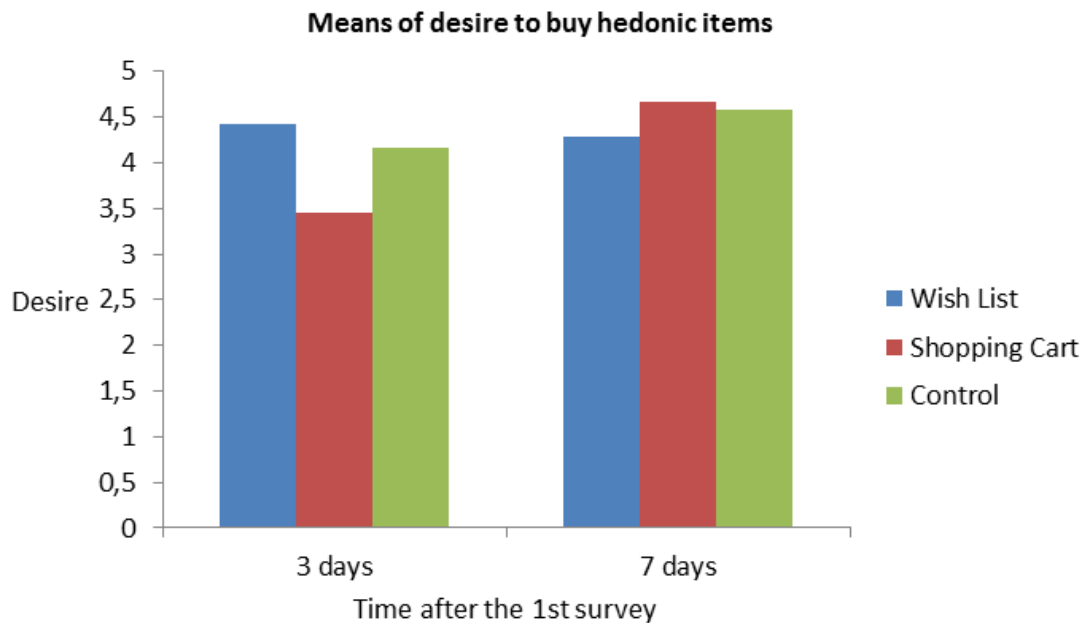


Figure 4 – Means of desire to buy hedonic items

4.2.3 Utilitarian items (Microwave, Car Mount Holder)

Again, preliminary checks were conducted to ensure normality of distribution ($p<.05$) and homogeneity of variances ($p=.52$). A new variable was computed which was the mean desire for utilitarian items (Microwave, Car Mount Holder). In order to achieve a normal distribution of the dependent variable (desire to buy utilitarian items), the variable was log-transformed. There was no significant interaction between the effects of time and type of action on desire to buy utilitarian items ($F(2,66)=1.09, p>.05$). Moreover, there

were also no significant differences in desire to buy utilitarian items between different time conditions ($F(1,66)=1.80, p>.05$) or between different action conditions ($F(2,66)=2.16, p>.05$). In this case and if differences were significant, the means of desire to buy utilitarian items were the following: (wish list 3 days: $M=2.33, SE=.42$; wish list 7 days: $M=2.63, SE=.42$)(shopping cart 3 days: $M=2.25, SE=.42$; shopping cart 7 days: $M=2.17, SE=.42$)(control 3 days: $M=2.58, SE=.42$; control 7 days: $M=3.63, SE=.42$). For interpretation purposes the untransformed means are presented (see Figure 5).

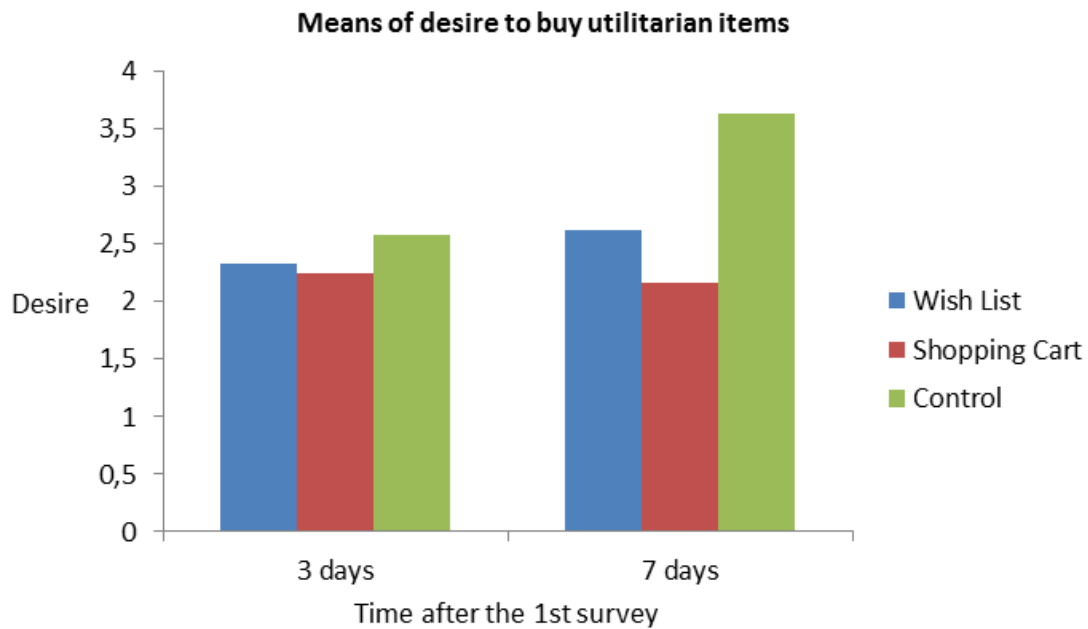


Figure 5 – Means of desire to buy utilitarian items – untransformed values

4.2.4 DVD

The dependent variable (desire to buy the DVD) was log-transformed to have a normal distribution as the preliminary check revealed it was not ($p<.05$). There was not homogeneity of variances between groups as assessed by the Levene's test for equality of error variances ($p=.00$). There was no significant interaction between the effects of time and action on desire to buy the DVD ($F(2,66)=2.47, .05<p<.1$) and there were no significant differences between different action levels ($F(2,66)=.43, p>.05$). Nevertheless, there were

significant differences in desire to buy the DVD between different time conditions ($F(1,66)=4.60, p<.05$). Participants who had the DVD in their shopping cart/wish list for 7 days have shown more interest in buying it ($M=4.50, SE=.33$) than participants who had it for 3 days ($M=3.53, SE=.33$). For interpretation purposes the untransformed means are presented (see Figure 6). However, by means of a simple main effects analysis, there were no statistically significant mean differences between different action levels in desire to buy DVD when individuals are in different time conditions: 3 days ($F(2,66)=.94, p>.05$) and 7 days ($F(2,66)=1.96, p>.05$).

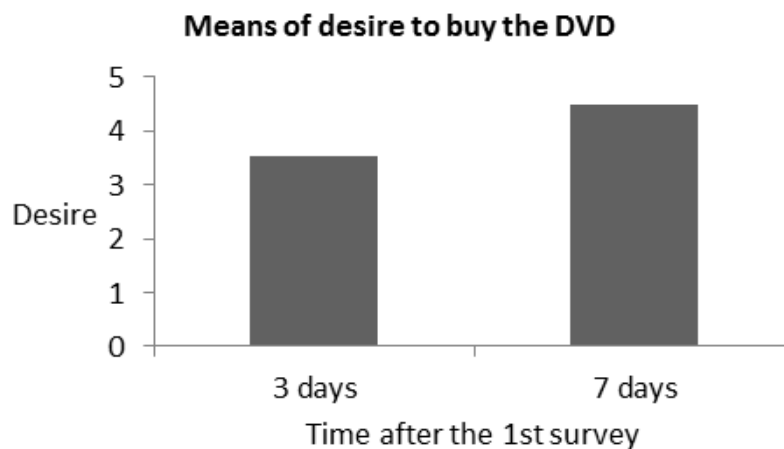


Figure 6 – Means of desire to buy the DVD - untransformed values

4.2.5 Microwave

The dependent variable (desire to buy the microwave) was not normally distributed ($p<.05$), thus, it was log-transformed. There was homogeneity of variances between groups ($p=.50$). There was no significant interaction between the effects of time and action on desire to buy the microwave ($F(2,66)=2.09, p>.05$) and there were no significant differences between different time conditions ($F(1,66)=.54, p>.05$). However, there were significant differences in desire to buy the microwave between action levels ($F(2,66)=3.28, p<.05$). Participants who added the microwave to their wish list have shown more interest

in buying it ($M=2.42$, $SE=.36$) than participants who added the microwave to their shopping cart ($M=2.17$, $SE=.36$). Still, participants who only read their description were the ones who have shown more interest of all ($M=3.33$, $SE=.36$). For interpretation purposes, the untransformed means are presented (see Figure 7).

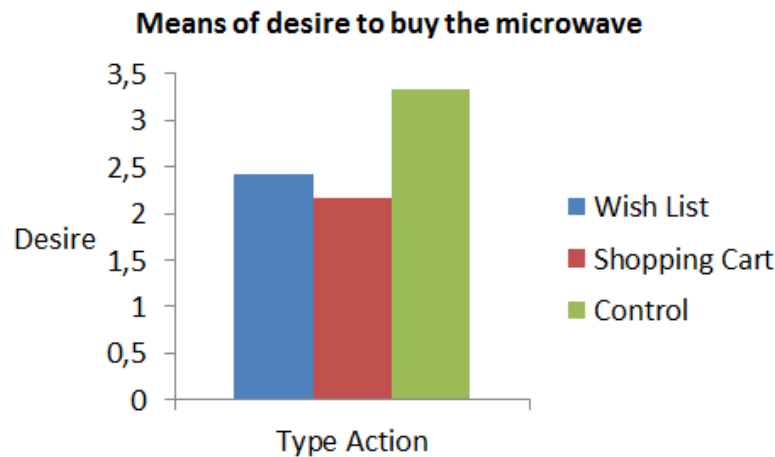


Figure 7 – Means of desire to buy the microwave - untransformed values

By means of a simple main effects analysis, it was possible to conclude if there were statistical differences in mean of desire to buy the microwave between time conditions for each action level. There were no statistically significant means differences between different time conditions in desire to buy the microwave when individuals added the microwave to the wish list ($F(1,66)=.00$, $p>.05$) and shopping cart ($F(1,66)=.58$, $p>.05$). Though, when individuals just read microwave's description, there were significant differences between time conditions in desire to buy it ($F(1,66)=4.14$, $p<.05$). Specifically, individuals who read the microwave's description 7 days after the first survey showed more interest to buy it ($M=4.08$, $SE=.50$) than individuals who read its description 3 days after the first survey ($M=2.58$, $SD=.50$). For interpretation purposes the untransformed means are presented (see Figure 8).

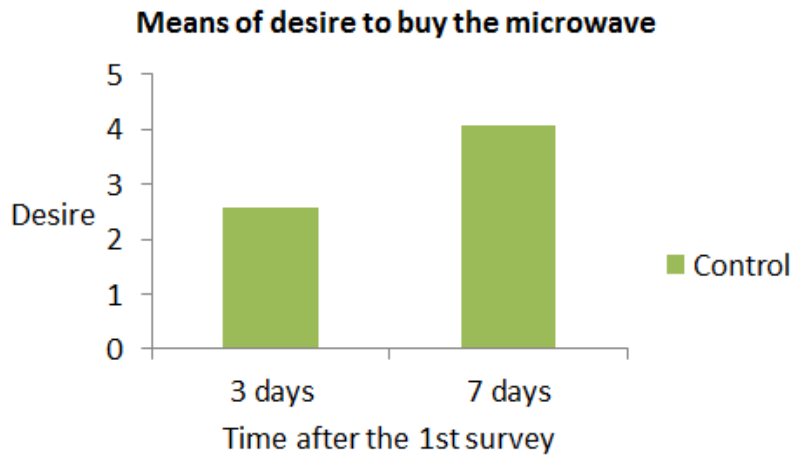


Figure 8 - Means of desire to buy the microwave - untransformed values

4.2.6 Chocolate

The dependent variable (desire to buy the chocolate) was not normally distributed ($p < .05$). Consequently, it was log-transformed. There was homogeneity of variances between groups ($p = .63$). There was no significant interaction between the effects of time and action on desire to buy the chocolate ($F(2,66) = .13, p > .05$). Additionally, there were no significant differences in desire to buy the chocolate between time conditions ($F(1,66) = .00, p > .05$) or between action levels ($F(2,66) = 2.31, p > .05$). If differences were significant, the means of desire to buy the chocolate were the following: (wish list 3 days: $M = 4.50, SE = .60$; wish list 7 days: $M = 4.58, SE = .60$)(shopping cart 3 days: $M = 3.92, SE = .60$; shopping cart 7 days: $M = 3.75, SE = .60$)(control 3 days: $M = 5.08, SE = .06$; control 7 days: $M = 5.25, SE = .60$). For interpretation purposes the untransformed means are presented (see Figure 9).

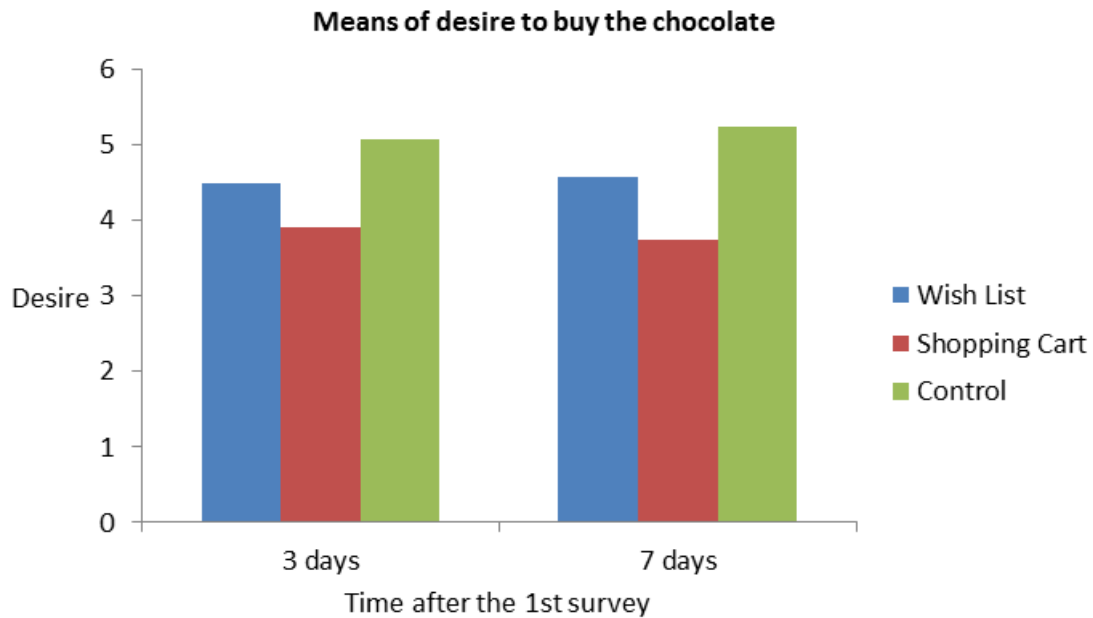


Figure 9 – Means of desire to buy the chocolate - untransformed values

4.2.7 Car Mount Holder

The dependent variable (desire to buy the car mount holder) was not normally distributed ($p < .05$). Consequently, this variable was log-transformed. There was homogeneity of variances between groups ($p = .93$). There was no significant interaction between the effects of time and action on desire to buy the car mount holder ($F(2,66) = .05$, $p > .05$). In addition, there were no significant differences in desire to buy the car mount holder between time conditions ($F(1,66) = 1.60$, $p > .05$) or between action levels ($F(2,66) = .36$, $p > .05$). In the case of significant differences, the means of desire to buy the car mount holder were the following: (wish list 3 days: $M = 2.25$, $SE = .55$; wish list 7 days: $M = 2.83$, $SE = .55$)(shopping cart 3 days: $M = 2.08$, $SE = .55$; shopping cart 7 days: $M = 2.42$, $SE = .55$)(control 3 days: $M = 2.58$, $SE = .55$; control 7 days: $M = 3.17$, $SE = .55$). For interpretation purposes the untransformed means are presented (see Figure 10).

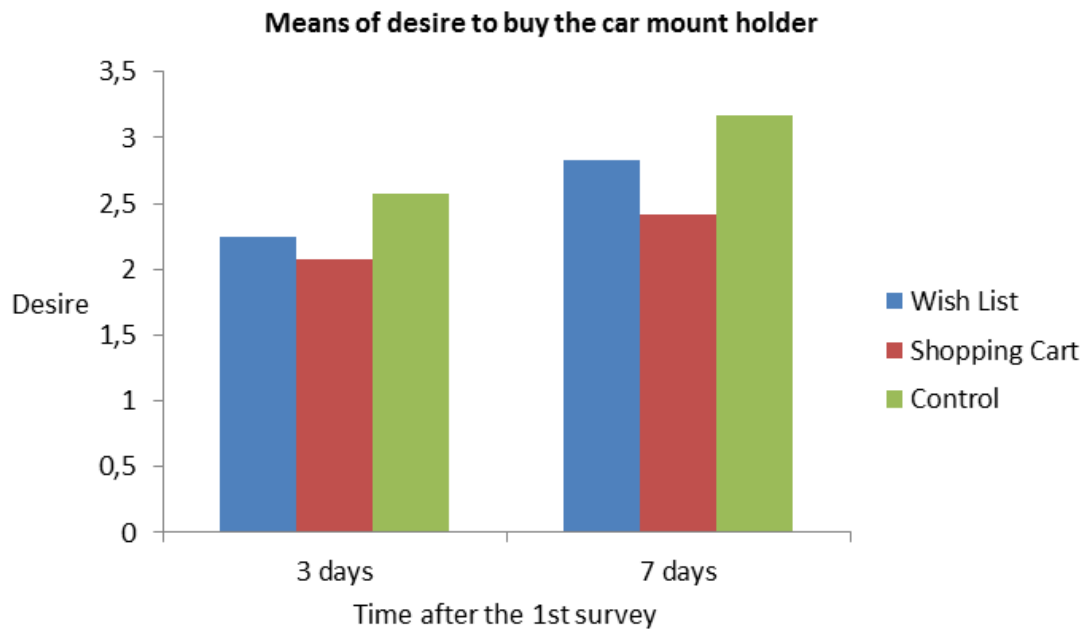


Figure 10 – Means of desire to buy the car mount holder - untransformed values

4.3 Hypothesis 2 (H2): The longer the item stays in the shopping cart/on the wish list the higher the level of conceptual consumption

4.3.1 All the four items together (DVD, Microwave, Chocolate, Car Mount Holder)

A 2 x 3 ANOVA was conducted that examined the influence of different independent variables (time condition/type action) on one dependent variable (conceptual consumption) and compared the means of conceptual consumption in the different experimental conditions. The dependent variable (conceptual consumption) was not approximately normally distributed for all the combination of levels of the two independent variables as the null hypothesis of normality of Shapiro-Wilk test was rejected ($p < .05$) when the combination was the following: 3 days with wish list. Therefore,

it was log-transformed before the statistical test. This dependent variable was computed as the average conceptual consumption regarding the four items. There was homogeneity of variance between groups as assessed by Levene's test for equality of error variances ($p=.23$). As a matter of fact, there was no significant interaction between the effects of time and action type on conceptual consumption ($F(2,66)=.41, p>.05$). Furthermore, there were no significant differences in conceptual consumption between different time conditions ($F(1,66)=3.20, .05<p<.1$) or between action levels ($F(2,66)=1.10, p>.05$). If differences were significant, the means of conceptual consumption for the items were the following: (wish list 3 days: $M=1.88; SE=.21$; wish list 7 days: $M=2.00, SE=.21$)(shopping cart 3 days: $M=1.50, SE=.21$; shopping cart 7 days: $M=1.71, SE=.21$)(control 3 days: $M=1.63, SE=.21$; control 7 days: $M=2.17, SE=.21$). For interpretation purposes the untransformed means are presented (see Figure 11).

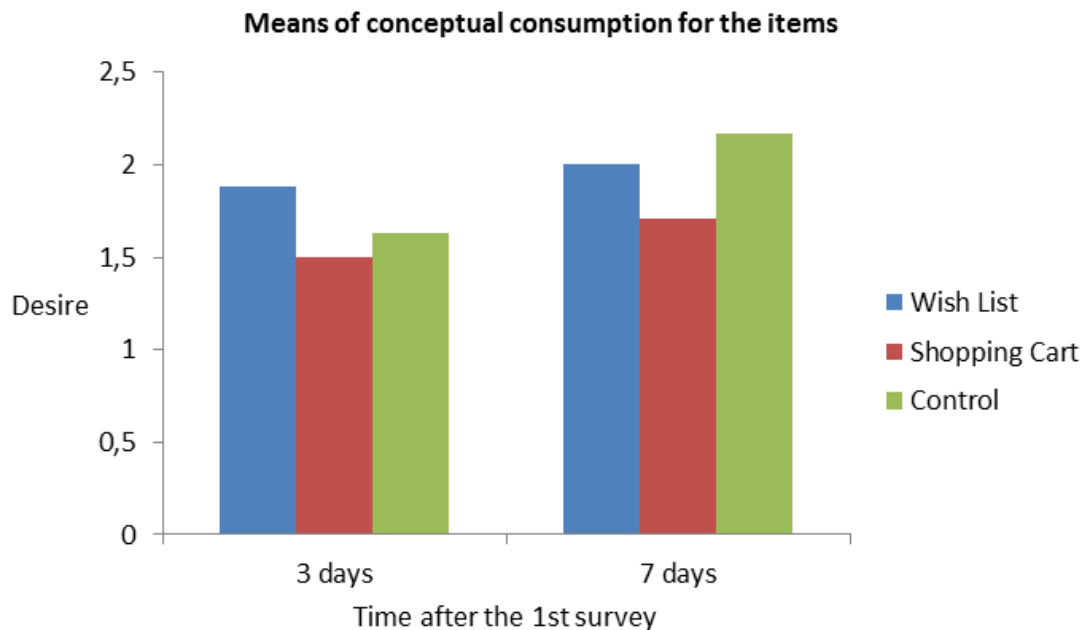


Figure 11 – Means of conceptual consumption for the items - untransformed values

This result may be due, again, to the fact that the items did not fit well with each other because of their nature. To assess if this contributed for this outcome, a reliability analysis between the two types of items was conducted. Conceptual consumption of hedonic

items and utilitarian items appeared to lack internal consistency ($\alpha=.59$). Consequently, the items did not fit well together and a separate analysis between the different types of items would be expected to yield more significant results.

4.3.2 Hedonic items (DVD, Chocolate)

A new variable was computed which was the mean conceptual consumption of hedonic items (DVD, Chocolate). Procedures were taken to guarantee normality of distribution ($p>.05$). There was no homogeneity of variances ($p=.04$). There was no significant interaction between the effects of time and type of action on conceptual consumption of hedonic items ($F(2,66)=1.49, p>.05$). Also, there were no significant differences in conceptual consumption of hedonic items between different time conditions ($F(1,66)=.59, p>.05$) or between action levels ($F(2,66)=1.59, p>.05$). If differences were significant, the means of conceptual consumption for the items were the following: (wish list 3 days: $M=2.33, SE=.24$; wish list 7 days: $M=2.00, SE=.24$)(shopping cart 3 days: $M=1.63, SE=.24$; shopping cart 7 days: $M=2.00, SE=.24$)(control 3 days: $M=2.00, SE=.24$; control 7 days: $M=2.42, SE=.24$)(see Figure 12).

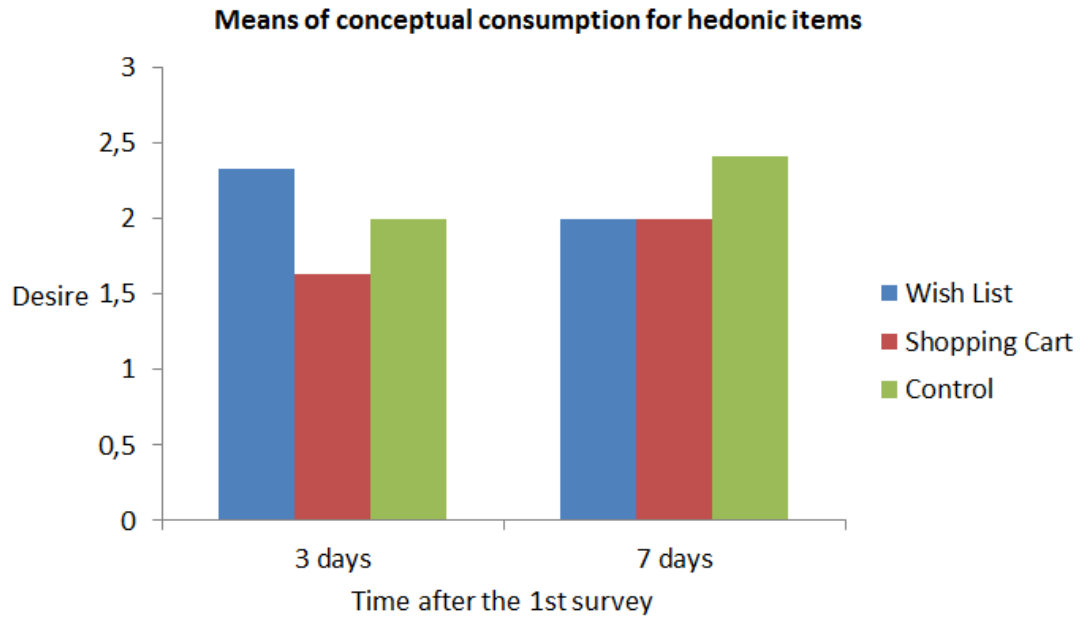


Figure 12 – Means of conceptual consumption for hedonic items

4.3.3 Utilitarian items (Microwave, Car Mount Holder)

Again, preliminary checks were conducted to ensure normality of distribution ($p < .05$) and this was achieved by log-transforming the dependent variable (conceptual consumption of utilitarian items). There was no homogeneity of variances ($p = .00$). There was no significant interaction between the effects of time and type of action on conceptual consumption of utilitarian items ($F(2,66) = .56, p > .05$). Moreover, there were also no significant differences in conceptual consumption of utilitarian items between different action levels ($F(2,66) = .27, p > .05$) but there were significant differences in conceptual consumption of utilitarian items between time conditions ($F(1,66) = 4.71, p < .05$). Specifically, participants who had the items in the shopping cart/on the wish list or simply read their description for 7 days thought more times about them ($M = 1.78, SE = .15$) than participants who had the items in the shopping cart/on the wish list or simply read their description for 3 days ($M = 1.35, SE = .15$). For interpretation purposes the untransformed means are presented (see Figure 13).

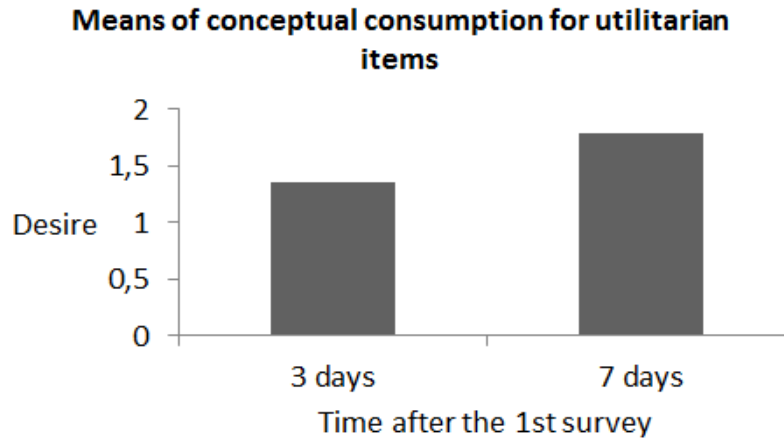


Figure 13 - Means of conceptual consumption for utilitarian items – untransformed values

Still, by means of a simple main effects analysis, there were no statistically significant mean differences between different action levels in conceptual consumption of utilitarian items when individuals are in different time conditions: 3 days ($F(2,66)=.06, p>.05$) and 7 days ($F(2,66)=.78, p>.05$).

4.3.4 DVD

The dependent variable (conceptual consumption of the DVD) was log-transformed to have a normal distribution as the preliminary check revealed it was not ($p<.05$). There was no homogeneity of variances between groups as assessed by the Levene's test for equality of error variances ($p=.03$). There was no significant interaction between the effects of time and action on conceptual consumption of the DVD ($F(2,66)=1.71, p>.05$) and there were no significant differences between different action levels ($F(2,66)=.13, p>.05$). Nevertheless, there were significant differences in conceptual consumption of the DVD between different time conditions ($F(1,66)=4.32, p<.05$). Participants who had the DVD in the shopping cart/on the wish list or simply read its description for 7 days thought more

times about the DVD ($M=2.11$, $SE=.15$) than participants who only had the DVD in the shopping cart/on the wish list or simply read its description for 3 days ($M=1.58$, $SE=.15$). For interpretation purposes the untransformed means are presented (see Figure 14).

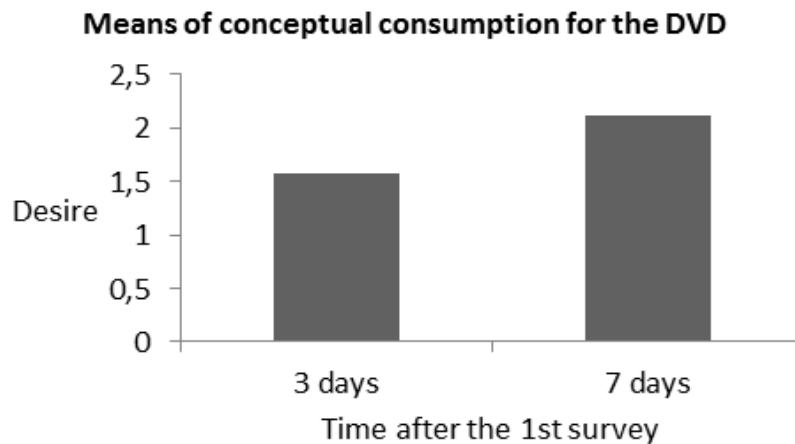


Figure 14 - Means of conceptual consumption for the DVD – untransformed values

Yet, by means of a simple main effects analysis, there were no statistically significant mean differences between different action levels in conceptual consumption of the DVD when individuals are in different time conditions: 3 days ($F(2,66)=1.17$, $p>.05$) and 7 days ($F(2,66)=.68$, $p>.05$).

4.3.5 Microwave

The dependent variable (conceptual consumption of the microwave) was log-transformed to have a normal distribution as the preliminary check indicated it was not ($p<.05$). There was no homogeneity of variances between groups as assessed by the Levene's test for equality of error variances ($p=.02$). There was no significant interaction between the effects of time and action on conceptual consumption of the microwave ($F(2,66)=1.62$, $p>.05$) and there were no significant differences between different action

levels ($F(2,66)=.41, p>.05$) and time conditions ($F(1,66)=3.48, p>.05$). If differences were statistically significant, the means of conceptual consumption for the microwave were the following: (wish list 3 days: $M=1.50, SE=.37$; wish list 7 days: $M=2.17, SE=.37$)(shopping cart 3 days: $M=1.50, SE=.37$; shopping cart 7 days: $M=1.33, SE=.37$)(control 3 days: $M=1.25, SE=.37$; control 7 days: $M=2.33, SE=.37$). For interpretation purposes the untransformed means are presented (see Figure 15).

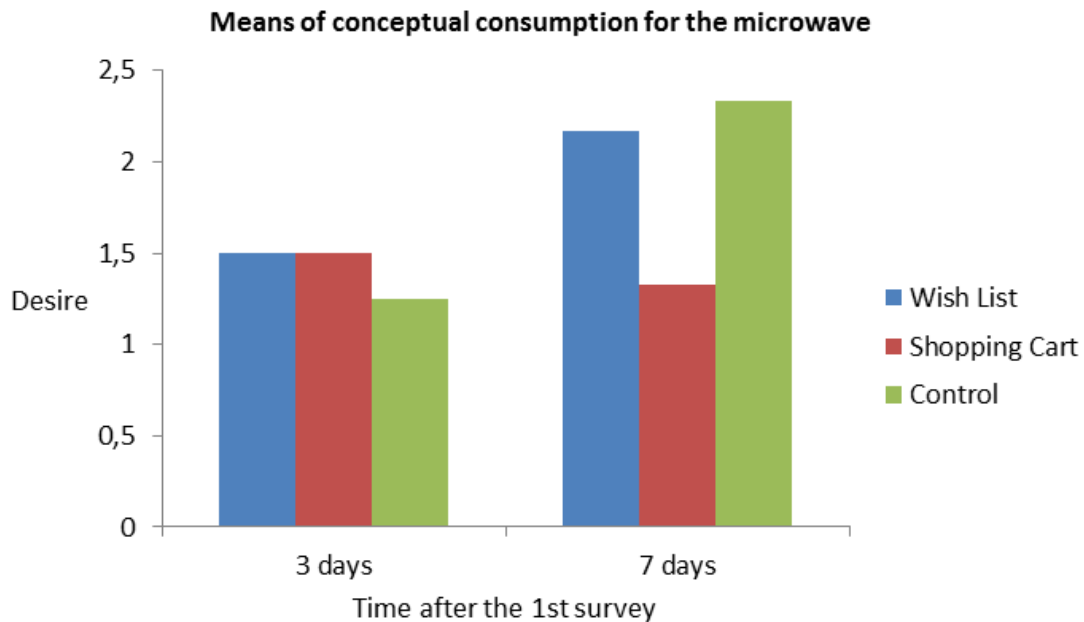


Figure 15 – Means of conceptual consumption for the microwave – untransformed values

4.3.6 Chocolate

The dependent variable (conceptual consumption of the chocolate) was log-transformed to have a normal distribution as the preliminary check indicated it was not ($p<.05$). There was homogeneity of variances between groups as assessed by the Levene's test for equality of error variances ($p=.08$). There was no significant interaction between the effects of time and action on conceptual consumption of the chocolate ($F(2,66)=.20, p>.05$) and there were no significant differences between different action levels

($F(2,66)=1.32, p>.05$) and time conditions ($F(1,66)=.05, p>.05$). If differences were statistically significant, the means of conceptual consumption for the chocolate were the following: (wish list 3 days: $M=2.83; SE=.39$; wish list 7 days: $M=2.00, SE=.39$)(shopping cart 3 days: $M=1.83, SE=.39$; shopping cart 7 days: $M=1.92, SE=.39$)(control 3 days: $M=2.50, SE=.39$; control 7 days: $M=2.58, SE=.39$). For interpretation purposes the untransformed means are presented (see Figure 16).

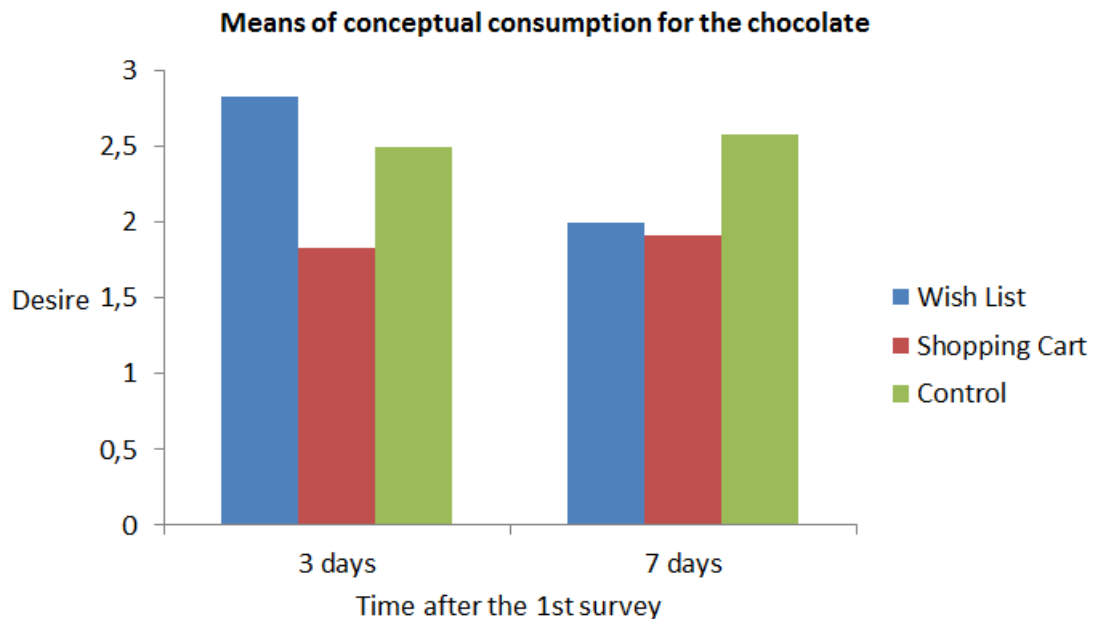


Figure 16 – Means of conceptual consumption for the chocolate – untransformed values

4.3.7 Car Mount Holder

The dependent variable (conceptual consumption of the car mount holder) was log-transformed to have a normal distribution as the preliminary check indicated it was not ($p<.05$). There was no homogeneity of variances between groups as assessed by the Levene’s test for equality of error variances ($p=.03$). There was no significant interaction between the effects of time and action on conceptual consumption of the car mount holder ($F(2,66)=.08, p>.05$) and there were no significant differences between different action levels ($F(2,66)=.37, p>.05$) and time conditions ($F(1,66)=2.95, p>.05$). If differences

were statistically significant, the means of conceptual consumption for the car mount holder were the following: (wish list 3 days: $M=1.33$; $SE=.23$; wish list 7 days: $M=1.83$, $SE=.23$)(shopping cart 3 days: $M=1.25$, $SE=.23$; shopping cart 7 days: $M=1.50$, $SE=.23$)(control 3 days: $M=1.25$, $SE=.23$; control 7 days: $M=1.50$, $SE=.23$). For interpretation purposes the untransformed means are presented (see Figure 17).

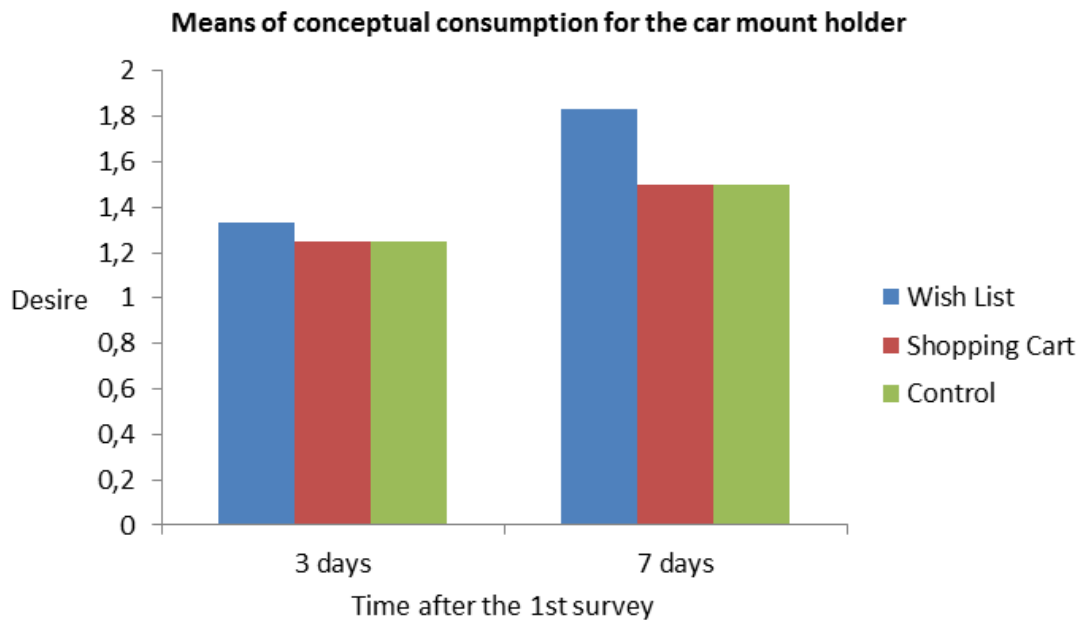


Figure 17 – Means of conceptual consumption for the car mount holder – untransformed values

4.4 Hypothesis 3 (H3): The longer the item stays in the shopping cart/on the wish list the lower the likelihood of consumers desiring that item as a result of increased conceptual consumption

In this hypothesis what was being tested was whether conceptual consumption (putative mediator) was related to desire to buy the items (dependent variable) and if

conceptual consumption carried the influence of time spent in the shopping cart/on a wish list (independent variables) to the desire to buy the items.

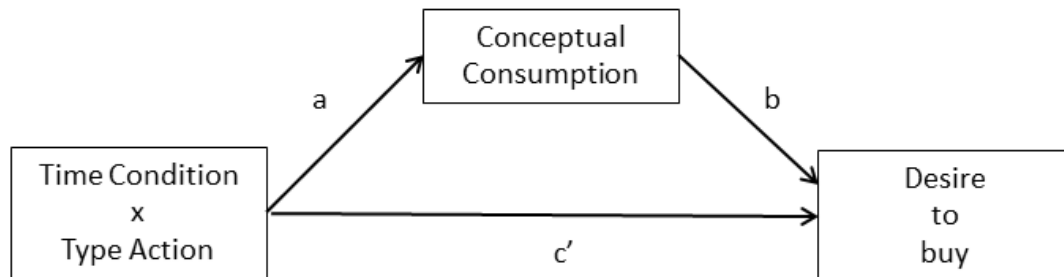


Figure 18 - An illustration of mediated moderation

In this case, mediated moderation is a hypothesized causal chain (see Figure 18) in which one variable affects a second variable which, in turn, affects a third variable. Conceptual consumption is the mediator if it mediates the relationship between time spent in a shopping cart/on a wish list (independent variables) and desire to buy the items (dependent variable). Paths a and b are direct effects and c' is a mediational effect, in which time spent in a shopping cart/on a wish list was expected to reduce desire to buy the items through the increase of conceptual consumption.

To test this hypothesis, a four step approach was adopted (Baron & Kenny 1986) in which several regression analyses were conducted and significance of the coefficients examined at each step. Eventually, a Sobel test would have been appropriate to confirm a mediated moderation situation but, before that, it was necessary to conduct the four step approach which implied some requirements for mediated moderation.

Variables were approximately normally distributed as conceptual consumption and time spent were log-transformed and desire to buy the items had already passed the test for normality. Since the predictor variables were categorical and could not be directly included in the model, time condition variable was dummy coded and type action variable

was contrast coded. Then, the four regressions were conducted and the results are depicted in the following table (see Figure 19);

	Analysis	Result
Step 1	Interaction between time and action predicting desire to buy the items	Not significant
Step 2	Interaction between time and action predicting conceptual consumption	Not significant
Step 3	Correlation between conceptual consumption and desire to buy the items	Significant
Step 4	Multiple regression with time, action and conceptual consumption predicting desire to buy the items	Significant

Figure 19 - Table of Regressions' results

In step 1, time spent in a shopping cart did not significantly predicted desire to buy the items scores ($\beta=.04$, $t(70)=-.23$ $p>.05$) and time spent on a wish list also did not significantly predicted desire to buy the items ($\beta=.15$, $t(70)=.88$ $p>.05$). The model also did not explained a significant proportion of variance in desire scores ($R^2=.08$, $F(2,70)=1.18$, $p>.05$).

In step 2, time spent in a shopping cart did not significantly predicted conceptual consumption ($\beta=.13$, $t(70)=.78$, $p>.05$). Time spent on a wish list also did not significantly predicted conceptual consumption ($\beta=.16$, $t(70)=.98$, $p>.05$). Moreover, the regression

model did not explained a significant proportion of variance in conceptual consumption ($R^2=.09$, $F(2,70)=1.36$, $p>.05$).

In step 3, conceptual consumption significantly predicted desire to buy the items scores ($\beta=.72$, $t(71)=8.58$, $p<.05$), having revealed that when conceptual consumption level increases, the desire to buy the items also increases. Conceptual consumption also explained a significant proportion of variance in desire scores ($R^2=.51$, $F(1,71)=73.64$, $p<.05$).

In step 4, in a multiple regression analysis case, neither time spent in a shopping cart significantly predicted desire to buy the items scores ($\beta=-.05$, $t(69)=-.42$, $p>.05$) nor time spent on a wish list ($\beta=.04$, $t(69)=.29$, $p>.05$). Nonetheless, in the context of the full model, conceptual consumption remained a significant predictor of desire to buy the items, though in a different direction that predicted ($\beta=.69$, $t(69)=7.60$, $p<.05$, partial $r= .69$). Also, it is important to stress that the partial correlation between conceptual consumption and desire to buy the items is substantially high. The predictor variables and the whole model explained a significant proportion of variance in desire scores, mostly due to conceptual consumption effects ($R^2=.51$, $F(3,69)=11.46$, $p<.05$).

The objective of steps 1-3 is to establish that zero-order relationships among the variables exist. Usually, when one or more of these relationships are not significant, the conclusion is that mediated moderation is not possible or likely to occur. This happened in this study, since step 1 and 2 were not significant. Therefore, mediated moderation is unlikely to take place under such conditions.

In brief, the two-way interactions were found to be non-significant. Moreover, when conceptual consumption is added to the model it drives these two-way interactions further from statistical significance.

4.5 Hypothesis 4 (H4): Putting an item in a shopping cart reduces desire for that item faster than putting it on a wish list

The test for this hypothesis is exactly the same as in H1 and, going back to that section, it is possible to conclude that this comparison of the speed of desire's reduction cannot be done as no significant interaction between the effects of time and action type on desire to buy the items was found, both at an aggregate level (all the items together and hedonic versus utilitarian) and one at a time.

5. Discussion

5.1 Overview

This section discusses the results obtained of this experiment. Deviations between the results obtained and the hypotheses are presented as well as plausible reasons and causes for them.

5.2 Discussion of the results

5.2.1 Hypothesis 1 – Placing an item in a shopping cart/on a wish list diminishes desire for that item

The results were intriguing, since no significant results were found at a global level (all the four items together). In other words, the results show that there is no significant influence of the different experimental conditions (both time and type of action) on the desire to buy the items. Differences between the different treatment groups were not perceptible and this may be due to several reasons. Among them is the fact that the sample size is too small to be able to detect statistical significance but also the difficulty in controlling the behavior of participants between the two surveys. Within this time, participants may have visited less their shopping cart/wish list than in other random period of time and they also may not have responded to the second survey when it was supposed to, because the second survey was sent to them 3 days and 7 days after the first survey, but there was no way to control and ensure that their answer would take place on that exact day. Moreover, the non-fit between the different items may have also impacted the significance of the results.

Nonetheless, when items were analyzed separately (i.e. one at a time), significant results were obtained with the DVD and microwave. In the case of the DVD, participants who had the DVD in their shopping cart/wish list or read its description for 7 days have shown more interest in buying it than participants in a 3 days situation. This is in opposition to what H1 hypothesized which stated that desire would reduce. This suggests that conceptual consumption might not have the predicted impact on reducing desire, although it is not possible to conclude this under such assumptions. Another possible explanation might be that, despite of being a hedonic item, a DVD does not elicit guilty feelings as a chocolate is more likely to provoke. Therefore, the cool system of the individual is not activated as a mechanism to avoid temptation and desire does not reduce. Additionally, participants who read microwave's description were the ones who had more interest in buying it, followed by participants who added it to the wish list and then by participants who added it to the shopping cart. Partially, this is in line with H1 in the sense that taking action upon an item (adding it to the wish list or shopping cart) reduces desire to buy that item.

5.2.2 Hypothesis 2 – The longer an item stays in the shopping cart/on the wish list the higher the scores of conceptual consumption

At a global level (all the four items together) no significant results were found. That is to say, no evidence was found supporting that different treatment levels influence the level of conceptual consumption. Potential reasons for this lack of statistical significance are the same as in H1. Yet, when analyzing by type of item (hedonic/utilitarian) and separately (one item at a time) significant results were obtained. Namely, H2 was supported when only utilitarian items were considered. In other words, the longer utilitarian items (microwave, car mount holder) were in the shopping cart/on the wish list or merely object of attention (reading of their description) the higher the level of

conceptual consumption. The same happened with the DVD: participants thought more times about it after 7 days than 3 days after the first survey.

5.2.3 Hypothesis 3 – The longer an item stays in a shopping cart/on a wish list the lower the likelihood of consumers desiring it due to increased conceptual consumption

The results of the mediated moderation test conclude that mediated moderation was not likely to have occurred. That is, conceptual consumption did not carry the influence of time spent in the shopping cart/on a wish list to the desire to buy the items. It was hypothesized that time spent would reduce desire to buy the items through the increase of conceptual consumption but this has not been confirmed. Moreover, one of the regression analyses (step 3) found out that conceptual consumption is a good predictor of desire to buy the items. Specifically, when conceptual consumption increases the desire to buy the items also increases. This is in contradiction with H3, which stated that conceptual consumption would decrease desire to buy the items.

Still, even if results were significant and mediated moderation a real hypothesis, the next step which would be the Sobel test, would contribute to reject H3 as the indirect effect of time spent on desire to buy the items via conceptual consumption would not be significantly different from zero. Therefore, no significant mediation effect was found and an explanation could be that the sample size is too small to notice significant effect. When moving on to the Sobel test for mediation, as MacKinnon et al. (2003) suggested, a sample size of 1000 is required to detect a small effect, 100 to detect a medium effect and 50 to detect a large effect. Perhaps a bigger sample would detect a smaller but significant effect. In addition, the dependent variable was only measured 3 days and 7 days after the first survey. Instead, if it was measured every day, more accurate data would be collected regarding this construct and results might have been different from the ones obtained.

5.2.4 Hypothesis 4 – Placing an item in a shopping cart reduces desire for it faster than placing it on a wish list

As no significant interaction between the effects of time and action type on desire to buy the items was obtained, solid results for this hypothesis cannot be reported. Nevertheless, a non-significant analysis would reject this hypothesis as putting an item in a shopping cart increases desire for the items (instead of reducing) in 20% while putting an item on wish list would increase desire in 2%.

6. Limitations and Recommendations

While contributing with some insights into how putting items in a shopping cart/on a wish list influence online shopping behavior, this research does have limitations. First, the sample consists almost exclusively of online U.S consumers; future research should examine other populations to extend the generalizability of findings to cross-cultural contexts, because what is ideal for consumers in the U.S may be far from good for consumers in other country. Second, the study is based on data collected by a survey rather than in a laboratory experiment, resulting in a lack of control of the participants. Therefore, awareness of this is required when drawing causal inferences. Third, the concept of conceptual consumption may not have been taken into account in its fullness. Specifically, thinking about a product and conceptually consuming it are only the same thing if and only if it allows for consumers' goal completion. Not having yet a unanimous way to measure conceptual consumption amongst scholars affected the accuracy with which results were obtained. Last but not least, a whopping limitation of this research is the sample size. Taking into account that this was a longitudinal study that implied a follow-up with participants, a larger sample was paramount. It is expected that to have a sample with enough power to find results with statistical significance, a sample of at least 200 participants would be needed. This limitation is taken as an influential factor to the non-significant results obtained.

There are many other opportunities to build on this study in future research. Suggested areas include consumer characteristics, type of product, type of website and study's characteristics. A detailed investigation of demographics (e.g. age, gender) as predictors of online shopping behavior, namely online shopping cart abandonment, would be useful. Also, a distinction between heavy-users of Internet and light-users of Internet and its influence on online shopping cart abandonment would be interesting. With regard to the type of product, it would be valuable to assess differences for specific products' (e.g. expensive versus cheap products; high versus low involvement products). Concerning

the methodology used, stimulating future directions might include a longer longitudinal study with a more closed monitoring (i.e. daily feedback) and, analogously to what Kukar-Kinney and Close (2010) pointed out, clickstream experiments (i.e. recording the action and clicks of a participant in a given website) and in-depth interviews, which can be a complementary perspective on this phenomenon of shopping cart abandonment. Furthermore, testing participants using other websites with different check-out processes and purchase systems would be also very interesting. To end with, researchers could use other theoretical approaches to come out with predictors of consumers' online shopping cart abandonment that can help explain this phenomenon, such as the Theory of Planned Behavior (Ajzen 1991).

7. Conclusion

This dissertation has investigated how putting an item in a shopping cart/on a wish list influence online shopping behavior. The evidence from this study suggests that online shopping cart abandonment cannot be seen as a result of increased conceptual consumption. The fact that the experiment took place on an online environment and items cannot be physically seen may have influenced results and may provide explanation for differences between online and offline settings. Even though a big part of the tests were statistically non-significant, this study brought important insights, such as that conceptual consumption is a reliable predictor of desire to buy an item; the longer utilitarian items (microwave, car mount holder) and the DVD were in the shopping cart/on the wish list or participants were reading their description the higher the level of conceptual consumption; participants who had the DVD in their shopping cart/wish list or read its description for 7 days have shown more interest in buying it than participants in a 3 days condition and, last, participants who read microwave's description were the ones who had more interest in buying it, followed by participants in the shopping cart/wish list conditions. Additionally, this dissertation extended previous research as it provided insight into long-term shopping intentions as a function of a previous shopping session.

Within the online consumer behavior area of research, shopping cart abandonment is frequent but under-studied consumer behavior. This dissertation has gone some way towards enhancing our understanding on how placing items to a shopping cart/wish list influence shoppers' desire to buy them. This study also set out to determine the effect of conceptual consumption on this relationship which represents an area of study with a lot to explore.

Furthermore, these insights and findings can be used to improve online shoppers' experience and increase e-retailers' RPU (revenue-per-user). Most firms today, independently of their nature, have an online presence and it is important for them to

understand what motivates consumers and how they can optimize their online purchases. Comprehension of this phenomenon could be important to marketers and retailers to encourage cross-buying between offline and online channels. Certain segments of consumers view both channels as all-in-one setting and pursue similar goals in both settings, while other consumers have different goals in each channel (Punj 2012).

Hopefully, the present research will stimulate more work on this intriguing and relevant phenomenon for e-businesses.

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9. Appendices

9.1 Appendix A.

First Survey – Listing of Questions

Q1 Please follow these steps; 1 - Login to your Amazon account; 2 - You will be asked to add the following 4 items to your wish list; 3 - Please click on the images of each item; 4 - Add to your wish list¹



¹ In the shopping cart survey it says “Add to your shopping cart” and in the control group survey it says “Read their description”.

Q2 When you put items on the wish list do you usually imagine yourself using them/consuming them?²

- Yes (1)
- Don't Know (2)
- No (3)

Q3 When you put items on the wish list do you feel that, somehow, you already have "taken something out" of them?³

- Yes (1)
- No (2)
- Not sure (3)

Q4 Please write the first word that comes first to your mind when you look to the pictures below;



Q5



² In the shopping cart survey it says "(...) items on the shopping cart..." ; This question is present in the control group survey as well as the shopping cart version

³ In the shopping cart survey it says "(...) items on the shopping cart..." ; This question is present in the control group survey as well as the shopping cart version

Q6



Q7



Q8 Please complete the following sentence: "When I want to buy a product I ... "

- like to consider and evaluate alternatives (1)
- just simply buy it («I don't like to drag the situation») (2)

Q9 How familiar are you with the type of products you just added to your wish list? 1 = Completely unfamiliar ; 7 = Completely familiar

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q10 Please look at the following pictures and select the option which you are more identified with;



When evaluating a pair of sneakers I care more about;

- Durability (1)
- Design (2)

Q11 When buying a cell phone I buy it mostly to;



- Chat with friends (1)
- Access help in times of trouble (2)

Q12 Do you mainly use the shopping cart when you want to buy something at the moment?

- Yes (1)
- No (2)

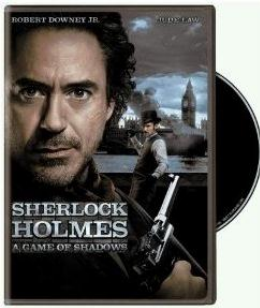
Q13 If you are paying attention do not answer this question: "What is 2 + 2 ?"

- 2,2 (1)
- 22 (2)
- 4 (3)
- 16 (4)
- 222 (5)

Q14 Do you mainly use the wish list when you want to keep record of products you want to buy later?

- Yes (1)
- No (2)

Q15 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q16 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q17 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q18 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q19 To what extent does the following statement describe your attitude? "I often think twice before I buy something" 1 = Not at all true ; 7 = Very true

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q20 What is your gender?

- Male (1)
- Female (2)

Q21 What is your age?

- 21 and under (1)
- 22 to 34 (2)
- 35 to 44 (3)
- 45 to 54 (4)
- 55 to 64 (5)
- 65 and over (6)

Q22 Which is the highest educational level you have achieved?

- No schooling completed (1)
- Nursery school to 8th grade (2)
- 9th, 10th or 11th grade (3)
- 12th grade, no diploma (4)
- High school graduate - high school diploma or the equivalent (e.g. GED) (5)
- Some college credit, but less than 1 year (6)
- 1 or more years of college, no degree (7)
- Associate degree (e.g. AA, AS) (8)
- Bachelor's degree (e.g. BA, AB, BS) (9)
- Master's degree (e.g. MA, MS, MEng, MEd, MSW, MBA) (10)
- Professional degree (e.g. MD, DDS, DVM, LLB, JD) (11)
- Doctorate degree (e.g. PhD, EdD) (12)

Q23 Current Employment Status

- Employed for wages (1)
- Self-employed (2)
- Out of work and looking for work (3)
- Out of work but not currently looking for work (4)
- A homemaker (5)
- A student (6)
- Retired (7)
- Unable to work (8)

Q24 What is your marital status?

- Now married (1)
- Widowed (2)
- Divorced (3)
- Separated (4)
- Never married (5)

Q25 What is your total annual income?

- Less than \$10,000 (1)
- \$10,000 to \$19,999 (2)
- \$20,000 to \$29,999 (3)
- \$30,000 to \$39,999 (4)
- \$40,000 to \$49,999 (5)
- \$50,000 to \$59,999 (6)
- \$60,000 to \$69,999 (7)
- \$70,000 to \$79,999 (8)
- \$80,000 to \$89,999 (9)
- \$90,000 to \$99,999 (10)
- \$100,000 to \$149,999 (11)
- \$150,000 or more (12)

Q26 What is your nationality?

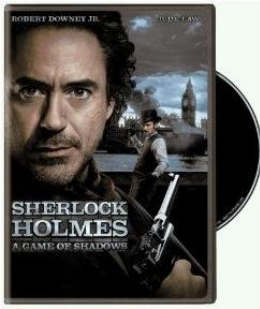
Q27 Please write the last 4 digits of your cell phone number (no use for any purpose other than this study)

9.2 Appendix B.

Second Survey – Listing of Questions

Note: The second survey launched 3 days after the first survey is exactly the same to the second survey launched 7 days after the first survey.

Q1 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q2 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q3 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



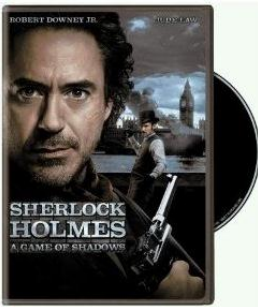
- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q4 How interested would you be in buying this product if you could afford it? 1 = Not very interested ; 7 = Very interested



- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q5 Did you buy online any of these products (or similar) since you answered the 1st Survey?



- Yes (1)
- No (2)

Q6



- Yes (1)
- No (2)

Q7



- Yes (1)
- No (2)

Q8

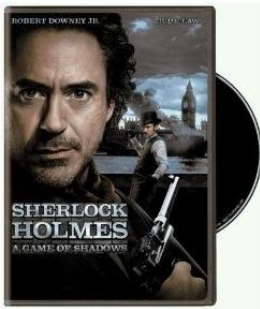


- Yes (1)
- No (2)

Q9 If you are paying attention do not answer this question: "Who is the President of United States of America?"

- Angela Merkel (1)
- François Hollande (2)
- Barack Obama (3)
- Yoshihiko Noda (4)

Q10 How often did you realize you were thinking about this product and/or imagining yourself using it or consuming it?



- Never thought (0 times) (1)
- 1 to 2 times (2)
- 3 to 4 times (3)
- 5 to 6 times (4)
- 7 to 8 times (5)
- More than 8 times (6)

Q11 How often did you realize you were thinking about this product and/or imagining yourself using it or consuming it?



- Never thought (0 times) (1)
- 1 to 2 times (2)
- 3 to 4 times (3)
- 5 to 6 times (4)
- 7 to 8 times (5)
- More than 8 times (6)

Q12 How often did you realize you were thinking about this product and/or imagining yourself using it or consuming it?



- Never thought (0 times) (1)
- 1 to 2 times (2)
- 3 to 4 times (3)
- 5 to 6 times (4)
- 7 to 8 times (5)
- More than 8 times (6)

Q13 How often did you realize you were thinking about this product and/or imagining yourself using it or consuming it?



- Never thought (0 times) (1)
- 1 to 2 times (2)
- 3 to 4 times (3)
- 5 to 6 times (4)
- 7 to 8 times (5)
- More than 8 times (6)

Q14 How often have you visited your wish list⁴ since you answered the 1st Survey? 1 = Never ; 7 = Very often

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 (7)

Q15 Is your wish list available for others to see?

- Yes (1)
- No (2)

Q16 Please write the last 4 digits of your cell phone number (no use for any purpose other than this study)

⁴ In the shopping cart survey it says "(...) visited your shopping cart..."