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REGRET ASSOCIATED WITH PAST AND FUTURE MISSES UNDER A MAXIMIZING MIND-SET

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Abstract

Promotions can make you happy if you get the “best” deal or miserable if you miss it. Previous research on this topic has shown that people favor products associated with a past miss to products associated with a future miss, and people in a maximizing mind-set, i.e. people who search for the best in different domains, feel more regret in a consumption domain. This research confirms that consumers prefer purchasing a product associated with a past miss (Experiments 1 and 2) and that regret levels are higher when participants come across the future miss, under the maximizing mind-set (Experiment 2). These studies add to the notion that information on regret might prompt people to make decisions towards a more optimistic outcome.

Keywords: Promotions, Maximizing, Past misses, Future misses, Regret.
Introduction

Customers are becoming increasingly cost conscious. They generally search for the best product/service available while trying to get the best possible deal at the same time. Companies, aware of customers’ dynamic wants and needs, often apply price promotions to ensure brand loyalty, attract new customers and increase sales. Black Friday, for example, is a one-day event held every year in November in the United States, where retailers and manufacturers make considerable price reductions in order to boost the sales volume. Customers take advantage of these promotions, as they are able to purchase relatively better products at a less expensive price.

Whereas promotions are generally beneficial for customers, the simple fact that one might miss the opportunity to buy a product at a discounted price can generate negative emotions on the decision maker. One of the main emotions directly linked to decision making is regret (Connolly & Zeelenberg, 2002). Regret has been subject of study in different domains (Zeelenberg & Pieters, 2006) and can be defined as “the negative, cognitively based emotion that we experience when realizing or imagining that our present situation would have been better had we acted differently” (Zeelenberg, 1999b, p. 326).

When making decisions, customers evaluate different options, anticipating the regret they will feel, even if such emotion reveals only after the outcome of the decision is known (Zeelenberg, 1999a). According to Zeelenberg, this anticipated regret has a higher impact in the decision process, as demonstrated in the early studies performed by Simonson (1992), Richard et al. (1996), and Parker et al. (1996). Further, the regret experienced after missing an initial opportunity can influence the consumer into not taking action in a subsequent
similar opportunity. This phenomenon, called inaction inertia, was introduced by Tykocinski et al. (1995), and developed by Arkes et al. (2002) where they showed that missing an initial large discount would make a customer less willing to buy the product at a future higher discount (Experiments 1 and 2). They also introduced a new mediation factor on inaction inertia, valuation (Experiment 3). Customers associate a lower price to an unattractive product, making them less inclined to acquire it at a future smaller sale. Zeelenberg et al. (2006) showed that instead of a causal role of regret on inaction inertia, devaluation of the second offer is the major determinant of inaction inertia.

Extensive research was done on the area of missed opportunities and past regret. More recently, however, research started to focus on opportunities that one will miss in the future, i.e., what reactions these to-be missed opportunities might cause on customers, and whether or not they generate the same effects as already missed opportunities (Shani et al., 2015). The present research tackles this matter, by adapting the first two studies presented by Shani et al. and using a maximizing mind-set.

The Maximizing mind-set

Early research on decision making showed that there are different types of decision makers. In his studies, Simon (1955) identified that some agents constantly try to opt for the “best”, while others tend to “satisfice”, i.e., are satisfied with “good enough” options. Maximizing is a decision strategy that involves making comparisons between all possible options and choosing the best possible alternative, whereas satisficing comprehends selecting the first option that meets a minimum standard for quality (Carter & Gilovich, 2010).
Consequently, if the range of options increases, a maximizer will have to examine all alternatives. If it becomes impossible to consider all alternatives, when the maximizer makes a decision, he or she will never know if there was a better option to examine. In that sense, as maximizers are repeatedly asking themselves “is this the best outcome” instead of “is this a good outcome”, the potential for regret is always there (Schwartz et al., 2002; Nenkov et al., 2008). In line with these studies, Levav et al. (2012) showed that in fact, maximizers put more effort in the decision making process, making them less satisfied with their choices.

Satisfaction, as described by Churchill & Surprenant (1982, p. 493), is “an outcome of purchase and use resulting from the buyer’s comparison of the rewards and costs of the purchase in relation to the anticipated consequences”. They consider that satisfaction occurs when the outcome is better than the expectations, and when the outcome is worse than anticipated, dissatisfaction occurs. Thus, as a maximizing mind-set involves making comparisons, and both regret and satisfaction are determined by such comparisons, individuals in a maximizing mind-set will regret more and will be less satisfied regarding a purchase outcome (Ma & Roese, 2014).

Whereas past research considered maximizing as a unique individual characteristic, Ma & Roese (2014) focused on a maximizing mind-set that varies situationally, i.e., is activated and experimentally manipulated. This mind-set activation is a type of procedural priming, which is a momentary activation of cognitive operations in order to solve problems (Fürster & Liberman, 2007). Moreover, they refer that priming has two stages. In the first one, participants receive information or perform a task within a specific domain. In the second stage, participants perform a task in a different domain and it is generally used to
measure the impact of the first task on participants. There is no obvious relation between the two phases, making the participants unaware that they were influenced by the first task. The present research aims to use the framework created by Ma & Roese (2014, Study 1b) to activate a maximizing mind-set and to prove that participants under the maximizing mind-set have increased distaste for a decision associated with a future miss and experience more regret and dissatisfaction, when compared to a decision related to a past miss.

**Past and Future misses, regret and responsibility**

Whereas extensive research has been made on missed opportunities and past regret, Shani et al. (2015) focused on missed and to-be missed opportunities. Their research shows that misses happening in the future have more impact on people than past misses. They presented several factors to support their results. First, because people believe they have more control when deciding to bypass future misses than past misses, being in control should make them feel more responsible for a future miss. As responsibility is one of the main determinants of regret (Zeelenberg et al., 2000), failing a future opportunity will culminate in higher regret when compared to an opportunity already missed. Another aspect that leads to higher levels of regret is the fact that people envision more easily better outcomes for the future. As the future is more changeable than the past and people pay notice more cases where they can prevent future misses, increased regret will occur in these cases (Roese & Summerville, 2005). A third factor contributing to increased regret on future misses relates with emotional forecasting. According to Wilson & Gilbert (2003), people tend to overestimate how negative events might impact their feelings and it becomes harder to deal with them. In that sense, the fact that emotions related to events that are yet to occur are more
intense and lasting than those related to events that already happened, contributes to a preference towards a product associated with a past miss (Shani et al., 2015). Furthermore, people are only able to recover from negative events once they already happened. As such, regret will be higher in a future miss.

The present research uses the first two studies developed by Shani et al. (2015) which focused on consumers’ choice preferences when presented with a decision making situation, in this case a purchasing decision. The first study predicted that consumers, when facing a decision to purchase a product from different brands/importers, knowing that one brand had been discounted in the past and the other will be discounted in the future, which they know from the start they will miss both discounts, prefer purchasing the brand that was already discounted in the past. Thus, buying the brand that the customer expects to offer discounts in the future would trigger increased feelings of regret and responsibility for missing the deal. The results confirm the predictions, as participants preferred purchasing the product associated with a past miss and felt more regret and responsibility for a future miss. The second study predicted that the opportunity of re-entering the store where the purchase was made without a discount and seeing the product at a discounted price would elicit a stronger sense of regret, when comparing to the case where the consumer did not re-enter the store. Half of the participants learned that they would not visit the store again, and the other half were told that they would re-enter the store after two weeks and look at the product offered at a discount. The results showed that those who re-entered the store felt increased levels of regret, in relation to those who were told they would not go back to the store. Moreover, returning or not returning to the store had no impact on responsibility. Finally, those who
know they would not re-enter the store, showed no preference for neither product. However, for those who were told they would enter the store again later, participants showed preference for the past miss, that is, the product that had been discounted in the past.

The present study deepens the analysis made by Shani et al. (2015) by inducing the maximizing mind-set used by Ma & Roese (2014, Study 1b). Based on previous research, it is expected that those who are in the maximizing mind-set will prefer the product associated with the past miss, and will experience increased feelings of regret, responsibility, and satisfaction for the future miss on a higher level that those in the control condition.

**Overview of the experiments**

In this research, two different experiments examined how people choose between alternatives associated with past and future misses and what situations elicit higher regret, responsibility and dissatisfaction emotions.

Experiment 1 showed that, when acquiring a product, consumers preferred the product that was discounted in the past than the one that will be discounted in the future, with no significant differences between the control and the test group. The largest share of participants considered that they would feel more regret, responsibility, and dissatisfaction when buying a product that will be on promotion in the future. This effect was significant only in the test group.

Experiment 2 used a 2x2 design to test whether regret, responsibility, and dissatisfaction felt by customers when choosing between past and future misses, are intensified by returning the store after purchasing the product and see it being offered at a
discount, and by being subject to a maximizing mind-set priming. Results showed that consumers experience an amplified feeling of regret when they re-enter the store, especially those under a maximizing mind-set. Regarding responsibility and dissatisfaction, there was no clear difference between the four conditions, although when re-entering the store, either in the control or in the maximizing mind-set group, both emotions increased slightly. Finally, re-entering the store increased preference over the past miss in both control and maximizing mind-set.

**Experiment 1**

The goal of the first experiment was to test the hypothesis that people favor products associated with a past miss to products associated with a future miss, and that buying the latter evokes increased regret, a higher perception of responsibility and increased dissatisfaction, and those feelings are amplified under the maximizing mind-set. Shani et al. (2015, Study 1), showed that the order by which the brand/importer made/will make the discount is irrelevant. For that reason, both conditions are merged in this experiment.

**Method**

Ninety college students (49 female), $M_{age} = 20.2$ years old, $SD = 2.04$, from several universities in the Lisbon area participated in this experiment in exchange for an opportunity to win a 10€ FNAC voucher, and were equally and randomly distributed by two conditions.

Participants in the test/maximizing mind-set condition had to choose the best option in a series of questions made with the purpose of inducing the maximizing mind-set, adapted from Ma & Roese (2014, Study 1b). Those in the control/non-maximizing mind-set had to
compare between several different pictures and point out the differences, in order to guarantee both groups had similar effort when performing this task.

Then, both groups were presented with a scenario where they had 10€ to spend on something they liked. After reaching a conclusion on what they should spend their money on, they were told that the option that most pleased them was to purchase a pen drive. They learned that two importers (Selgan and Galson) import the same pen drive. Usually it costs 20€ but during this week the pen drive was discounted and both importers are offering the pen drive for 5€. They later found out that Selgan had offered the pen drive for 2.5€ two weeks earlier and that Galson will offer the pen drive for 2.5€ in two weeks’ time. It was then stated that participants could not delay their decision, i.e., they had to decide purchasing whichever pen drive for 5€ now, or not to buy any product at all.

The scenario was created to make participants choose between a product that had been discounted and a product that will be discounted, which they for sure will miss. Also, participants pointed out which situation, the past miss or the future miss, would make them feel the strongest feeling of regret, responsibility and dissatisfaction (“Paying 5€ for a pen drive that was sold for 2.5€”, “Paying 5€ for a pen drive that will be sold by 2.5€”, “I would feel the same whether I paid 5€ for a pen drive that was sold or will be sold for 2.5€”).

Results

Results are displayed on the tables below. Table 1 shows participants’ purchasing preferences according to each condition (control vs maximizing mind-set). In both conditions, participants preferred the option associated with a past miss, in this case the Selgan’s pen drive (48.9% in the control condition and 51.1% in the maximizing mind-set
condition) than the option associated with a future miss (26.7% in the control condition and 17.8% in the maximizing mind-set condition). Additionally, 11 participants (24.4%) in the control condition and 14 participants (31.1%) in the maximizing mind-set condition chose not to purchase any pen drive.

There were no significant differences in the type of decision between the control condition and the maximizing mind-set condition, $\chi^2 (2, N = 90) = 1.18, p = .55$, even when taking into account just the participants that decided to purchase a pen drive, $\chi^2 (1, N = 65) = .69, p = .41$. This was also the case for regret, responsibility and dissatisfaction emotions. However, it would be interesting to analyze the behavior of each dependent variable inside a particular condition. Table 2a shows that the largest share of participants in the maximizing mind-set condition experienced stronger feelings of regret and responsibility when choosing an option associated with a future miss, in this case “Paying 5€ for a pen drive that will be sold for 2.5€”. This was also the case for responsibility in the control condition, although only marginally significant. The remaining variables presented non-significant results. When using just the participants who decided to buy a product (see Table 2b), purchasing the pen drive associated with the future miss was again the option that evoked more regret, responsibility and dissatisfaction in the maximizing mind-set condition. A similar pattern was found on the control condition but the results were not significant, with the exception of regret. The shares presented in Table 2b are similar to those presented in Table 2a, but now with dissatisfaction on the maximizing mind-set condition increasing to levels similar to regret and responsibility. Finally, 85 out of 90 participants evaluated the quality of the pen drive sold by Selgan and Galson to be equal. Thus, it is not possible to attribute to the
differences in perceived quality, the preference for Selgan’s pen drive, that is, the product associated with a past miss (Shani et al., 2015).

Table 1
Experiment 1: Pen drive purchase decision by the type of promotion missed (past vs future) and condition (control vs maximizing mind-set).

<table>
<thead>
<tr>
<th></th>
<th>Control Condition</th>
<th>Maximizing mind-set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Selgan's</td>
<td>22 (48.9%)</td>
<td>23 (51.1%)</td>
</tr>
<tr>
<td>Purchase Galson's</td>
<td>12 (26.7%)</td>
<td>8 (17.8%)</td>
</tr>
<tr>
<td>Neither</td>
<td>11 (24.4%)</td>
<td>14 (31.1%)</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>$\chi^2$ (2, N = 45) = 4.93, $p = .085$</td>
<td>$\chi^2$ (2, N = 45) = 7.60, $p &lt; .05$</td>
</tr>
<tr>
<td>Total</td>
<td>45 (100%)</td>
<td>45 (100%)</td>
</tr>
</tbody>
</table>

Table 2a
Experiment 1: Level of regret, responsibility and dissatisfaction for missing a discount, by the type of promotion missed (past vs future) and condition (control vs maximizing mind-set).

<table>
<thead>
<tr>
<th></th>
<th>Control Condition</th>
<th>Maximizing mind-set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regret</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Paying 5€ for a pen drive that was sold for 2.5€</td>
<td>11 (24.4%)</td>
<td>9 (20.0%)</td>
</tr>
<tr>
<td>Paying 5€ for a pen drive that will be sold for 2.5€</td>
<td>21 (46.7%)</td>
<td>22 (48.9%)</td>
</tr>
<tr>
<td>I would feel the same whether I paid 5€ for a pen drive that was sold or will be sold for 2.5€</td>
<td>13 (28.9%)</td>
<td>14 (31.1%)</td>
</tr>
<tr>
<td>$\chi^2$</td>
<td>$\chi^2$ (2, N = 45) = 3.73, $p = .155$</td>
<td>$\chi^2$ (2, N = 45) = 5.73, $p = .057$</td>
</tr>
<tr>
<td>Total</td>
<td>45 (100%)</td>
<td>45 (100%)</td>
</tr>
</tbody>
</table>
The objective of this experiment was to understand if people experience a stronger feeling of regret, responsibility and dissatisfaction when they re-enter the store and face the future miss. In addition, under a maximizing mind-set, the intensity of regret, responsibility and dissatisfaction is expected to be higher in comparison to the control group.

**Method**

One-hundred and twenty college students (70 female), $M_{age} = 20.3$ years old, $SD = 1.97$, from several universities in the Lisbon area participated in this experiment in exchange for an opportunity to win a 10€ FNAC voucher. Participants were equally and randomly assigned to four conditions, in a 2x2 design: control/maximizing mind-set and enter/do not enter.
enter conditions. The instrument by which the maximizing mind-set was induced on participants was the same as in Experiment 1. Then, they read the following scenario:

For a while, you have been considering purchasing a gift for yourself. Today, at an electronic shop, you see a pen drive you like, priced at 15€. When the sales person approaches you, he explains that two different importers (A and B) import the pen drive. Since both importers wish to promote the product, they sometimes offer the pen drive for 7.5€. More precisely, importer A offered the pen drive for 7.5€ two weeks ago, whereas importer B will offer the pen drive for 7.5€ in two weeks’ time. As you want the pen drive now, you must pay the regular 15€.

Next, participants were asked to imagine that they would re-enter the store two weeks later and encounter the product being discounted, or they would not re-enter the store since they do not visit it on a regular basis.

Finally, participants were asked to indicate, on a scale from -5 (Purchasing from importer A for 15€, who offered the pen drive four weeks ago for 7.5€) to +5 (Purchasing from importer B for 15€, who is offering the pen drive now for 7.5€), what pen drive they would acquire, and in which situation they would feel more regret, responsibility and dissatisfaction.

**Results**

Participants in the control condition who expected to re-enter the store had higher levels of regret ($M = 2.33, SD = 2.94$) when compared to those who did not enter the store ($M = 1.53, SD = 3.35$) but these results were not significant, $F(1, 58) = .966, p = .330$. In fact, although regret levels increased in the maximizing mind-set condition and the re-entering the store condition (see Table 3), there were no significant differences between the levels of
regret felt by the control condition participants and the maximizing mind-set condition ones, in both re-entering or do no re-entering the store. However, if one compares participants in the control condition who did not re-enter the store \((M = 1.53, SD = 3.35)\) with those in the maximizing mind-set condition who did re-enter the store \((M = 3.1, SD = 2.35)\), there is a significant difference on regret levels between the two conditions, \(F(1, 58) = 4.392, p < .05\).

In what concerns responsibility, there were no significant differences between any of the four conditions, although in all conditions the values were positive and differed from the midpoint of the scale \((0)\), all \(t’s(29) > 2.079\), all \(p’s < .047\). The same occurred for dissatisfaction, all \(t’s(29) > 2.127\), all \(p’s < .042\). This is in line with the results in Experiment 1, thus showing that participants felt more responsible and experienced more dissatisfaction for a future miss than a past miss.

Participants who re-entered the store preferred purchasing the pen drive associated with the past miss (see Table 4), either in the control condition \((M = -1.4, SD = 3.41)\) or in the maximizing mind-set condition \((M = -1.33, SD = 3.11)\), as these values differed from the midpoint of the scale \((0)\), \(t_{control}(29) = -2.249, p < .05\) and \(t_{maximizing}(29) = -2.347, p < .05\). However, the effect of re-entering the store on preference was only marginally significant in the control condition, \(F(1, 58) = 3.276, p < .10\). In both not re-entering the store conditions, there was no clear preference for a product associated with a past miss or a future miss, \(t_{control}(29) = .427, p < .673\) and \(t_{maximizing}(29) = -.165, p < .870\). These results indicate that when participants know that they would not come across the future miss, i.e., they would not re-enter the store, they did not show any preference towards the product associated with the future miss or the past miss.
The aim of this research was to show that consumers, when put in a situation where they cannot defer decisions on purchasing a specific product, and when they know that the product was/will be in promotion, prefer a product associated with a past miss than a product associated with a future miss.

Shani et al. (2015), in their first two studies, showed that consumers prefer, in fact, products associated with a past miss, as purchasing a product associated with a future miss elicits stronger feelings of regret and responsibility for missing the discounted product. When put in a situation where consumers could return to the store and see the product first-hand,
regret levels and sense of responsibility would increase, when compared to not returning to the store. Additionally, Ma & Roese (2014) considered that people in a maximizing mind-set tended to engage in comparisons and tried getting the best. When the outcome was not the best, they experienced stronger feelings of regret and dissatisfaction when compared to those in a non-maximizing mind-set. This study complements both previous researches in the sense that it was expected that participants in the maximizing mind-set condition would feel increased levels of regret, responsibility and dissatisfaction, and preference for a product associated with a past miss.

Experiment 1 corroborated previous research as in general, people prefer a product associated with a past miss. One possible reason for the similarity between the control and maximizing mind-set condition is that consumers in the latter are also obliged to make a decision. In that case, and as the quality of both products was perceived to be the same, they adopted the same behavior as the control group. When it comes to the emotions felt, although not significant in the control condition, results were in the expected direction, showing that future misses elicited more regret and responsibility than past misses. By adding the framework used by Ma & Roese (2014, Study 1b) to induce a maximizing mind-set, it was possible to observe that being in a state of wanting the best prompted higher levels of regret, responsibility and dissatisfaction when compared to the control group, thus being in line with previous research.

Experiment 2 elaborated on the previous one by using a scale to measure the intensity of regret, responsibility and dissatisfaction, as well as choice preference. As expected, regret in the maximizing mind-set and re-entering condition had the highest value. This confirms
that re-entering the store and seeing the product while having a maximizing mind-set significantly increased regret levels, when compared to the control and not re-entering the store condition. Although being in the expected direction, the other results were not significant. Again, this research corroborates previous results, in the sense that those who re-entered the store, either in the control or in the maximizing mind-set condition, showed preference for the product associated with the past miss.

**Practical Implications**

The results obtained in both experiments provide useful information for companies and marketing managers. First, missing an opportunity to purchase a product at a discounted price triggers negative emotions. For that reason, companies should inform customers about future promotions, not only to ensure consumers are aware of a future opportunity, but also because it prevents them from missing an actual promotion. Of course, this is beneficial for both customers and companies, since the latter can keep generating profit by guaranteeing consumers remain loyal, and the former can make use of promotions to purchase a product they otherwise would not buy, making them feel less regret.

Marketing managers should take into account the maximizing mind-set, as it could result on higher post-purchase regret. For example, if the pen drive displayed on the store had been subject to a comparative advertising campaign, or emphasized its best characteristics, it could activate the maximizing mind-set on consumers, which could increase post-purchase regret. In this case, customers would feel more tempted to switch brands in cases where the product did not perform as expected (Ma & Roese, 2014).
As a way to prevent consumers from experiencing negative emotions, more specifically regret, a clear communication between the company and the consumer is obviously imperative.

**Limitations and Future Research**

In the first study developed by Shani et al. (2015), the product used was a mug and participants had the opportunity to purchase the product. This opportunity to buy the product can make it easier for participants to make a decision. In addition, whereas mugs are not only functional but can now have all types of shapes, colors, and design, pen drives are only functional. The diverse criteria one can pay attention to when buying a product can confirm more significantly the results obtained in Experiment 2, as it makes customers more willing to search for information and to get the “best”. As such, further research should look at how different categories of products impact consumers’ choices and the feeling of regret, and what products can, by themselves, generate a maximizing mind-set.

Although the maximizing mind-set was activated using a framework proved to work, it could be the case that most of the participants had a chronic tendency to maximize (Ma & Roese, 2014), which might have led to the non-significant results in Experiment 2. Future research is needed to corroborate their results.

In the present research, the time interval between the decision and the past or future miss was reduced. It would be interesting to understand if the results would change if the time between both conditions increased or decreased, as actions (in this research purchasing a pen) increase regret in the short-term, whereas inactions increase regret in the long term (Gilovich & Medvec, 1994).
Consumers, knowing that they missed or will miss an opportunity, feel regret. This negative emotion affects their well-being, especially when failing to get the best. Assessing what type of regret, past or future, people are more comfortable with when confronted with a consumption decision, provides useful insight on how they can shield themselves from negative emotions when evaluating their decision, by taking advantage of that information.

References


