

Purchase decision and purchase delay of hedonic and utilitarian products in the face of time pressure and multiplicity of options

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Kenny Basso

*Cooperando Intelligence and Interaction & B-Lab Learning Space,
Passo Fundo, Brazil*

Caroline da Costa Duschitz

Universidade Estadual do Rio Grande do Sul, Porto Alegre, Brazil

Cassandra Marcon Giacomazzi

Cooperativa Vinícola Aurora Ltda, Bento Gonçalves, Brazil

Monique Sonogo

Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

Carlos Alberto Vargas Rossi

*Post-Graduate Programme in Business Administration,
Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, and*

Danúbia Reck

IMED Business School, Faculdade Meridional, Passo Fundo, Brazil

Abstract

Purpose – Time pressure may change how people behave. The multiplicity of options and the nature of the products, hedonic or utilitarian, might increase the complexity of the choice and alter the effects of time pressure. Combining both factors, the purpose of this paper is to verify the moderating role played by the nature of the products observing the relationship between interaction (time pressure \times multiplicity of options) and choice delay.

Design/methodology/approach – A two-level factorial experimental design was applied (time pressure: with; without) \times 2 (number of alternatives: two; six) \times 2 (type of purchase: hedonic; utilitarian), with mixed design, considering the purchase delay a dependent variable.

Findings – The results signal that the nature of the products moderates the effects of the interaction between time pressure and choice overload in purchase delay. Utilitarian purchases are more susceptible to the effects of time pressure and options overload than hedonic purchases.

Originality/value – The interaction between time pressure and choice overload, researched in previous works, influences in different ways the purchase of utilitarian or hedonic products. This differentiation, taking into consideration the type of product, brings new perspectives on the purchase decision process and provides theoretical and practical information on the effects of information overload and time pressure over the consumer decision-making process.

Keywords Purchase decision, Choice overload, Hedonic products, Purchase delay, Time pressure, Utilitarian products

Paper type Research paper



Introduction

The accumulation of jobs and duties often leads to a lack of time for daily tasks. Among the many activities that may be affected by this lack of time are the matters of consumer behavior, such as the choice and acquisition of products and services. Time pressure is a frequent restraint in daily decisions and consumers are also affected by this limitation (Javed & Javed, 2015; Madan, Spetch, & Ludvig, 2015). Along with the lack of time, time pressure is usually considered a stress factor (Kim & Kim, 2008; Denton, 1994) and is characterized by quick decision making and judgments and, in the case of consumer activities, it reduces the time for analysis of the options and pondering of benefits and disadvantages of each alternative. Young, Goodie, Hall, and Wu (2012) emphasizes that time pressure influences the quality of consumer decisions because it limits the capacity of processing information (Vlašić, Janković, & Kramo-Čaluk, 2011).

Beyond the lack of time, in the processes of acquiring new products and services, it is also necessary to deal with the amount of options offered and with the ways of analyzing these options to ensure the best choice. The combination of lack of time with choice overload might generate stress for the consumer, causing the decision to delay the purchase (Ackerman & Gross, 2003). This delay may be caused by the perception of lack of sufficient time to analyze the options and make the decision and also by a feeling of loss, future regret and future regret over a quickly made choice.

Park and Jang (2013) state that consumers must deal with a great number of options for their choices and it may lead to negative consequences, such as inertia and regret. For Tang, Hsieh, and Chiu (2017), a great variety of options might deter the consumer from making the purchase and also time pressure might limit the capacity of processing all the information necessary for making a choice (Vlašić *et al.*, 2011).

However, not all products/services are of the same nature, which is another factor that interferes in the decision-making process, in addition to time pressure and choice overload. Products and services may be considered hedonic or utilitarian according to their characteristics and purchase context (Dhar & Wertenbroch, 2000; Okada, 2005). Utilitarian consumption refers to items that are a priority for meeting certain purposes; hedonic consumption refers to items that bring emotions, enjoyment and pleasure through their use or possession (Hirschman & Holbrook, 1982; Dhar & Wertenbroch, 2000; Yim, Yoo, Sauer, & Seo, 2014).

Although the studies of Ackerman and Gross (2003) emphasize the relationship between the number of options and time pressure on purchase delay, they do not clarify if the nature of the consumption (hedonic or utilitarian) influences this relationship. Therefore, the present paper seeks to understand the moderating role played by the nature of the consumption (hedonic or utilitarian) in the relationship between the interaction (time pressure \times multiplicity of options) and choice postponement. The first part of the work presents the concepts and theoretical principles that guide the research and, therefore, the hypothesis of the paper. The experimental method is also discussed. Subsequently, the results of the experimental study are presented. Next, the results are discussed and, thereafter, the implications and limitations of the work and suggestions for future research are presented.

Theoretical framework

Time pressure

All consumer activities deal with the element of time and, consequently, the relations with time are often applied to better understand consumer behavior (Miyazaki, 1993). Several authors have studied the relationships between time pressure, the purchase decision process and the processing of information (Hahn, Lawson, & Lee, 1992; Dhar & Nowlis, 1999; Lin & Wu, 2005; Teng, Huang, & Yeh, 2007; Tonetto, Rohenkohl, & Stein, 2008).

Hahn, Lawson, and Lee (1992) state that time pressure reduces the quality of the decision in situations of information overload. Lin and Wu (2005) assert that, considering consumer preferences situations, time pressure influences the effects of commitment and attraction, weakening the effects of commitment and strengthening the effects of attraction. Time pressure can also nullify the framing effect in consumer decisions, removing the impact of the presentation (gain vs loss) over the decision making (Tonetto *et al.*, 2008).

For Rothstein (1986), time pressure can be defined as a sequence of time intervals within which a series of judgments and dynamic decisions must be quickly made. Godinho, Prada, and Garrido (2016) define time pressure as the perceived cost of a lack of time. Even if time pressure is, to a certain extent, natural to people's lives, it is usually considered a stress factor (Kim & Kim, 2008; Denton, 1994).

A restriction in time might affect consumer preferences and behavior, with time pressure causing the consumer to make quick choices that might fail to satisfy their needs (Javed & Javed, 2015). When a consumer is under time pressure, the delay of purchase decision is lower, granting that the time restriction leads the individual to opt for one of the options available, instead of postponing the choice (Dhar & Nowlis, 1999). The postponement of the decision involves the perception of needing more time for the evaluation and analysis of the alternatives or, even, the refusal to make a decision due to the possibility of future losses.

Under time pressure, consumers simplify the decision-making process, spending less time in each piece of information and selectively focusing on the most important items (Wood & Neal, 2009). Along the same line, Chang and Chen (2015) argue that under time pressure the consumer might better select the information by assigning more value to important information and less value to irrelevant cues. Under time pressure, individuals make their decisions based on a strict set of attributes, making choices that are more utilitarian (Godinho, Prada, & Garrido, 2016).

On a day-to-day basis, many decisions are made under time pressure, without enough time to ponder benefits and disadvantages, because time pressure regulates the amount of information that can be processed (Pieters & Warlop, 1999; Lin, Sun, Chuang, & Su, 2008). Consumers seem to apply at least three strategies to deal with time pressure: accelerating the acquisition of information, filtering parts of the information available and/or changing the strategy for information acquisition (Pieters & Warlop, 1999).

Multiplicity of options

When given a choice between a small and a large variety of products, consumers tend to prefer great variety, because it brings benefits, such as flexibility to adapt to environmental changes, a more fun experience and the increase in the probability of satisfying a certain need; however, surprisingly, consumers report less satisfaction with the products chosen among a set with great variety than with those chosen from small assortments (Messner & Wanke, 2011).

A great number of choices might seem beneficial to the consumer. However, the paradox of choice indicates that great variety may bring negative consequences to the decision maker (Tang, Hsieh, & Chiu, 2017). Throughout the various consumption situations, the individual is subjected to an overload of data or options when seeking for information, which may alter one's behavior, due to a load of data that is greater than the processing capacity (Jacoby, 1977; Malhotra, 1982; Dhar, Nowlis, & Sherman, 2000; Sheth, Mittal, & Newman, 2001). The overload of options, or multiplicity of options, is therefore defined as a negative effect caused by the excess of information.

Jacoby (1977) stresses that individuals have a limited capacity to process information and that the overload of information makes people confused, less efficient and less precise.

For Malhotra (1982) consumers exposed to an overload of options tend to adopt simplifying strategies to make a choice, instead of through considering each option.

Studies demonstrate that the analysis of a high amount of information leads to a lack of optimization in the decision to purchase (Anderson, Taylor, & Holloway, 1966; Jacoby, 1977; Malhotra, 1982; Keller & Staelin, 1987; Hahn *et al.*, 1992; Greifeneder, Scheibehenne, & Kleber, 2010).

Anderson, Taylor, and Holloway (1966) argue that, as the number of options increases, the consumer experiences a high degree of anxiety and discomfort to make the decision. Keller and Staelin (1987) also emphasize that great amounts of information diminish the precision of the consumer choice. Greifeneder, Scheibehenne, and Kleber (2010) consider the effects of the excess of option related to the complexity of the choice.

Kuksov and Villas-Boas (2010) show that a few alternatives may lead the individual to avoid choosing a specific option and, when many options are offered, the search and the processing of information are high, leading the individual to realize that evaluations may be too costly, preventing them from making a choice. Gilke, Van Ryzin, and Van de Walle (2016) state that increasing the number of options reduces the probability of a choice being made.

In big assortments, with differences and variety of options, complexity increases along with the number of options because not only more alternatives are presented, but also more attributes that need to be memorized (Greifeneder *et al.*, 2010; Messner & Wanke, 2011). A greater number of options increase the perceived cost of lower satisfaction with the choice (Szrek, 2017). Rogge (2017) also stated that the quality of the choice also decreases with a higher number of options.

Chernev, Böckenholt, and Goodman (2015) argued that a greater variety of options may lead to the postponement of the choice, higher probability of change and to a bias toward easily justifiable choices. Dhar, Nowlis, and Sherman (2000) found that, under time pressure, the increase of the complexity of a set of alternatives (increase in the number of options) reduces the probability of a deeper and more complex analysis of all the options. Under time pressure, individuals tend to focus more on the positive aspects of each alternative (Dhar *et al.*, 2000).

Thereby comes the belief that the increase of the number of options available may cause the individual to postpone making a decision, given the complexity and the difficulty to analyze all the features involved. However, under time pressure the heuristic processes postulated by Dhar and Nowlis (1999) and Dhar *et al.* (2000) can be used to make a decision. If one believes there is not enough time to analyze all aspects of all alternatives, one might choose to focus on only one feature to make this choice. Thus, with the use of heuristic processes under time pressure, individuals might present lower levels of postponement of a decision with an overload of options. Based on this knowledge, the following hypothesis is presented:

- H1.* The choice overload will moderate the relationship between time pressure and choice postponement, with the effect of time pressure over choice postponement being higher (lower) with a higher (lower) number of options offered.

Hedonic vs utilitarian products

Consumer choices for products and/or services are guided by hedonic and utilitarian motivations (Dhar & Wertenbroch, 2000; Okada, 2005). The hedonic consumption, also called experiential, can be understood as a multi-sensorial experience that elicits emotions and affections through the use of the product and involves aesthetical perception, fantasy and enjoyment (Hirschman & Holbrook, 1982; Dhar & Wertenbroch, 2000). Utilitarian consumption, on the other hand, can be understood as instrumental, oriented

toward purposes, and taking place according to the applicability and usability of the product (Dhar & Wertenbroch, 2000; Strahilevitz & Myers, 1998).

Several studies take into consideration the differences between utilitarian and hedonic consumption to explain the behavioral dimensions of the consumers (Dhar & Wertenbroch, 2000; Chandon, Wansink, & Laurent, 2000; Childers, Carr, Peck, & Carson, 2001; Okada, 2005). Chandon, Wansink, and Laurent (2000) stress that consumers evaluate discount sales based on the hedonic and the utilitarian benefits, with monetary discounts leading to more utilitarian benefits and non-monetary rewards leading to more hedonic benefits. Childers, Carr, Peck, and Carson (2001) emphasize the role played by hedonic and utilitarian aspects on the consumer acts that take place within the online environment and results demonstrate that hedonic aspects, such as pleasure, motivate consumer actions.

The differences between the types of consumption may also influence the relationship between the time pressure and the choice postponement. According to Kim and Kim (2008), the chronic level of time pressure significantly moderates the enjoyment of the unplanned, hedonic, purchase. Antagonistically, Miyazaki (1993) considers that the increase of the time pressure is more associated with planned purchases (utilitarian) than with unplanned ones (hedonic).

Babin, Darden, and Griffin (1994) note that, when time pressure increases, the reduction in the sentiments of freedom and spontaneity experienced by the consumer will lead to a lower hedonic value regarding that purchase experience. A buyer that faces time restriction might not have enough time to purchase everything needed, thus generating a perception of low hedonic value of the purchase, given the poor decisions that did not accomplish all tasks. The authors also mention that consumers who feel an increase in time pressure might also make decisions they will later regret.

Hence the belief that time pressure has greater effect on utilitarian choices, avoiding purchase delay. Chang and Chen (2015) emphasize that time pressure increases utilitarian motivation, causing individuals to assign more value to the most important attributes of the product. In the utilitarian choice, it is understood that individuals recognize the majority of the characteristics necessary to the decision making, enabling the appearance of the decision-making heuristics mentioned by Dhar and Nowlis (1999), which cause the time pressure to reduce the levels of choice postponement. On the other hand, in hedonic consumption, the characteristics of the purchase need to be experienced by the consumers (Babin, Darden, & Griffin, 1994) and, therefore, heuristics resulting from time pressure may not take place, since the shortest path might not be the most pleasant one. Thereby, time pressure might not influence the possibility of choice postponement in hedonic consuming.

Beyond the effects of time pressure, the type of consumption can also interact with the choice overload. Sela, Berger, and Liu (2009) found that a choice from a big assortment of option is usually harder to make, leading people to choose options that are easier to justify. Utilitarian needs are usually easier to justify than indulgences (hedonic needs) and, consequently, their choice from a big set of options may shift from a hedonic good to a utilitarian one. However, the authors verified that when there is a plausible justification, the hedonic choice stands out in big sets of options. According to Baltas, Kokkinaki, and Loukopoulou (2017) consumers seek greater variety of utilitarian products, but this variety must be evidenced in practical features.

Considering the evidence, the type of consumption or purchase involved, if a utilitarian or hedonic product, also influences the effect described on the first hypothesis. More specifically, the effect of the interaction between time pressure and overload of options on the levels of choice postponement may take place in utilitarian choices but not in hedonic ones, since for the first option it might be easier to make justifications and because the use of heuristics may bring into effect the time pressure and the overload of options; while for hedonic purchases, considering the difficulties to justify the choice and the pleasure

generated by the experiences, these effects are less likely to appear. Thus, the second hypothesis of the study is presented as follows:

- H2.* The type of purchase will moderate the effect of the interaction of time pressure and choice overload on the levels of choice postponement. In utilitarian (hedonic) decisions the presence of choice overload without time pressure will (will not) increase the levels of choice postponement.

The Figure 1 presents the theoretical model.

Method

In order to analyze the interaction between the types of purchase (hedonic and utilitarian), choice overload and time pressure, the present study was developed using the experimental method. It is worth noting that previous studies on time pressure (Dhar & Nowlis, 1999), choice overload (Greifeneder *et al.*, 2010) and types of purchase (Sela, Berger, & Liu, 2009) utilized this method for their empirical findings.

Participants and experimental design

The experimental study was performed with 159 college students. The opportunity to participate on a raffle for bookstore gift certificates was offered as an incentive to participation. The average age was 26 years old ($\sigma=6.53$ years). More than half (54.7 percent) was of the female gender.

The experimental design used was the 2 factorial (time pressure: with; without) \times 2 (type of purchase: hedonic; utilitarian). The time pressure and the overload of options (controlled by the amount of alternatives) were manipulated among different individuals, while the type of purchase was intra-subject manipulated, i.e., the same individual was exposed to two types of purchase. The participants were randomly distributed into experimental groups.

Pre-tests

In order to identify the sufficient amount of time for the individuals to choose from the sets (two or six alternatives), a pre-test was performed with 63 participants. The procedures applied on the pre-test were the same as those used in the study itself and were subsequently described. It was determined that, in order to evaluate the set with two alternatives, individuals took around 30 s to make a decision and for the set with six alternatives, average time was about 60 s. Therefore, the type of pressure adopted is compatible with the one adopted by Dhar and Nowlis (1999) and also considered moderate by Lin and Wu (2005), once it allows individuals to have different and sufficient times for each set of alternatives.

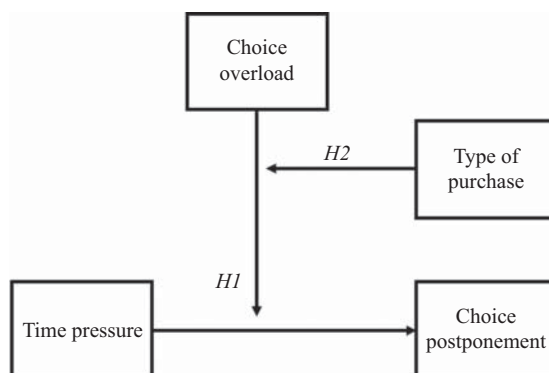


Figure 1.
Theoretical model

Another pre-test was performed with 32 participants, seeking to identify hedonic and utilitarian purchases. Several products were tested (e.g. cellular phones, computers, modems and MP3 players). The procedures followed those adopted by Okada (2005) and Dhar and Wertenbroch (2000). The participants were exposed to a certain product, with a description of its characteristics (three characteristics for each product), and then evaluated in regards to being utilitarian (not utilitarian to very utilitarian – 7 points) and hedonic (not hedonic to very hedonic – 7 points). According to this assessment, the interviewed students considered the modem the most utilitarian product ($M=6.69$; $\sigma=0.59$), while the product considered most hedonic was the MP3 player ($M=5.06$; $\sigma=1.34$). Even though the products have been substituted in recent years, it is important to note that the concern was with the perceptions of hedonism and utilitarianism attributed to the products and necessary to the manipulation.

Procedures

The Mouse Lab software was used in the development of the study and the experiment was operationalized via computer. Within the experimental platform, the participant was invited to participate in a study that involved the situation of an online purchase. A situation in which the individual needed a product was evoked and, therefore, should begin the process of an online purchase.

Subsequently, the participant was lead to think about his/her daily routine, considering agitation and time pressure. This reflection was induced in order to make the participant think about daily pressures and how his/her time was fulfilled with activities. Next, in the time pressure condition, the participant was informed that he/she would have limited time to make a choice. This last information was suppressed for the option without pressure.

In order to choose the product (manipulation of options overload) two or six alternatives of products were displayed, each one having six different characteristics/attributes.

The following characteristics were displayed, with the variations in specificities, for the modem purchase decision: upload capacity (1 Mbps or 640 Kbps or 832 Kbps); voltage (Dual voltage or 110 v or 220 v); connection (wireless or cable); installation manual (Portuguese–Spanish or Portuguese–English or Portuguese); download capacity (8 Mbps or 16 Mbps or 24 Mbps); warranty (6 months or 9 months or 12 months). For the purchase of the MP3, the characteristics were: charging (rechargeable batteries or USB cable or single rechargeable battery); earphones (subtle with headband or big with headband or subtle with spots); songs already installed (40 songs or 50 songs or 60 songs); data storage (4 GB or 8 GB or 16 GB); display (2.4 inches or 2.5 inches or 2.6 inches); colorful cases (2 options or 3 options or 4 options). These characteristics had different values (specifications) for each alternative; however, the difference was minimal in order not to have one alternative explicitly better than other. The characteristics were randomly placed for each alternative. In this regard, the conflict to decide (Tversky & Shafir, 1992) existed in both sets, with two and six alternatives. The order of exhibition of the characteristics and specifications of the products was counterbalanced, therefore avoiding order biases.

In the presentation of the products, the individual could choose a product to purchase or decide to “purchase later,” to postpone the purchase. The measurement of the postponement is similar to the one used by Dhar and Nowlis (1999).

During the choosing process, there was the manipulation of the time pressure. Individuals in groups with time pressure visualized a timer on the top of the screen (30 s for two alternatives and 60 s for six alternatives). Individuals in groups without time pressure had no time frame to decide.

Since the manipulation of the type of purchase as intra-subject, this experimental procedure was performed twice. First the product modem (most utilitarian) was evidenced and, after the individual reached a decision, choosing to postpone or deciding for one alternative, a new similar situation was presented to the participant, this time with the MP3 (most hedonic product), for the participant to decide for the purchase or postponement.

After responding to the shopping simulation for both products, participants answered to questions for crosschecking the manipulation, to demographic questions and received information regarding the purpose of the study.

Results

Manipulation check

In order to check the manipulation of the time pressure, participants were asked how much time pressure they felt during the study. The answers were measured in a five-point item Likert Scale. Thus, a difference in the sentiment of pressure was detected ($F(1, 156) = 42.286$; $p < 0.01$), with individuals under time pressure claiming more feeling of pressure ($M_{\text{with pressure}} = 3.38$ vs $M_{\text{no pressure}} = 2.14$). The time pressure manipulation was, therefore, acceptable.

In order to check the manipulation of the overload of options through the sets of alternatives, the individuals were asked about the difficulty to make a choice, checking the difference in the difficulty to decide between the sets of two and six alternatives ($F(1, 156) = 13.914$; $p < 0.01$), with individuals exposed to the set of six alternatives reporting greater difficulty ($M_6 = 2.95$ vs $M_2 = 2.35$). This manipulation was also acceptable for the study.

The manipulation of the type of purchase was also verified. For this purpose, individuals were asked if the products announced were utilitarian or hedonic. In this regard, the modem ($M = 4.59$) was perceived as more utilitarian than the MP3 player ($M = 3.41$; $t = 12.528$; $p < 0.01$); while the MP3 player ($M = 4.08$) was perceived as more hedonic than the modem ($M = 2.77$; $t = 10.570$; $p < 0.01$). The participants, as intended, perceived the offers in different ways.

Furthermore, aside from checking the manipulations, there was control of other variables. An assessment of the time pressure felt by the individual in the daily life was performed, with no difference found for the time pressure groups ($F(1, 156) = 0.079$; $p > 0.05$). Moreover, this variable did not influence the choice of the modem (Wald $\chi^2(1) = 3.39$, $p > 0.05$) nor the choice of the MP3 player (Wald $\chi^2(1) = 1.55$, $p > 0.05$).

Previous purchases of modem and MP3 players were also monitored. The individuals were asked if they had previously purchased these products (dichotomous yes/no question). It was possible to verify that having previously purchased a modem had no association with the choice of a modem in the study ($\chi^2(1) = 0.01$, $p > 0.05$). Likewise, if the individual had at least once purchased an MP3 player did not influence the choice during the study ($\chi^2(1) = 1.35$, $p > 0.05$).

The degree of intensity of the task performed during the experimental study was also measured, in order to verify and control possible differences in scenarios. The intensity of the task found was similar in the different levels of time pressure ($F(1, 156) = 0.001$; $p > 0.05$) and options overload ($F(1, 156) = 0.063$; $p > 0.05$).

Hypothesis test

After verifying the manipulations and the controlled variables, analysis procedures were performed. A logistic regression with repeated measures indicated a significant interaction between time pressure, overload of options and type of product (Wald $\chi^2(4) = 13.78$, $p < 0.01$).

For the utilitarian product (modem) there was a significant interaction between time pressure and overload of options (Wald $\chi^2(1) = 8.91, p < 0.01$), with the time pressure having the most impact on the choice of the modem (Wald $\chi^2(1) = 9.14, p < 0.01$), while the overload of options did not present a significant effect (Wald $\chi^2(1) = 3.12, p > 0.05$). More specifically, individuals exposed to the low number of options (without choice overload) did not present difference in the amount of purchase postponements when exposed to time pressure (25.0 percent) or without time pressure (14.3 percent, $\chi^2(1) = 1.43, p > 0.05$). On the other hand, under the influence of choice overload, when six alternatives were exposed to the participant, individuals without time pressure postponed more their decisions (40.6 percent) than individuals with a limited time to make the decision (10.2 percent, $\chi^2(1) = 10.36, p < 0.01$). Figure 2 presents this analysis, evidencing *H1* and also the incidence of the effect of the interaction between time pressure and option overload in the level of choice postponement, seen in *H2*.

For the hedonic product (MP3), the interaction between time pressure and choice overload did not present a significant impact on the postponement of the choice (Wald $\chi^2(1) = 0.64, p > 0.05$), and not even the main effects of time pressure and choice overload on purchase postponement were expressive (Wald $\chi^2(1) = 0.04, p > 0.05$; Wald $\chi^2(1) = 1.44, p > 0.05$, respectively). Figure 3 represents this analysis, confirming *H2*.

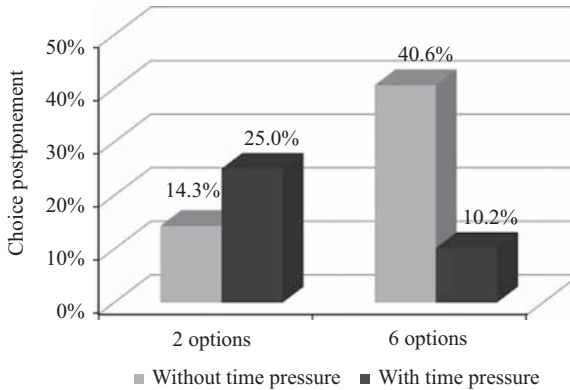


Figure 2.
Postponement of the decision to purchase the utilitarian product vs time pressure x choice overload

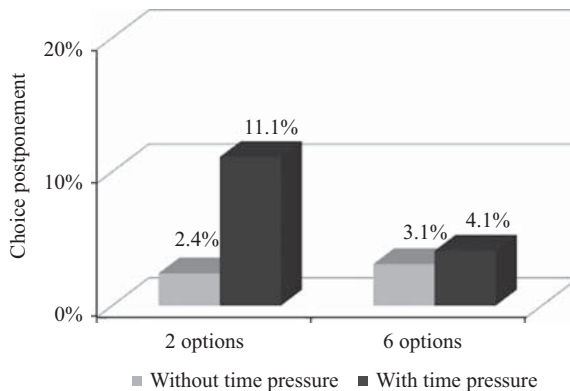


Figure 3.
Postponement of the decision to purchase the hedonic product vs time pressure x choice overload

It is worth noting that when few MP3 player alternatives (no choice overload) were shown to the client, 11.1 percent of the individuals chose to postpone when under time pressure and 2.4 percent postponed without time pressure ($\chi^2(1) = 2.46, p > 0.05$), revealing, despite not showing an expressive difference, that the level of postponement is higher with time pressure. With choice overload for a hedonic product, individuals under time pressure (4.1 percent) and without time pressure (3.1 percent, $\chi^2(1) = 0.82, p > 0.05$) had similar levels of decision postponement.

Discussion and implications

As describe in the literature (Dhar & Nowlis, 1999; Godinho *et al.*, 2016), time pressure can be an important factor to make consumers decide to choose one alternative over deciding to postpone or even cancel the purchase. Advancing along this line, the present paper discusses two effects pertaining to the decision for purchase postponement: the information overload and the type of purchase or consumption.

Notably, this study found that the type of consumption or purchase could moderate the effects of the interaction between time pressure and choice overload in the postponement of the purchase. Confirming *H2*, the study evidence that when individuals are under a deciding process that involves utilitarian choices, time pressure and choice overload significantly influence the decision or the postponement by the decision maker. This study supports the findings of Miyazaki (1993) by evidencing that utilitarian purchases are more susceptible to the effects of time pressure than hedonic purchases. Similarly, Chang and Chen (2015) found that time pressure is a significant antecedent of utilitarian motivation, but the same is not found for hedonic motivation.

According to Dhar and Nowlis (1999), decisions are made differently under time pressure, with individuals adopting heuristic processes to choose an alternative in time (e.g. focus on one attribute is considered most important to determine the choice or postponement of the decision). In the present study, it was possible to verify this when the participants were exposed to the utilitarian product (modem, in this case) and under conditions of choice overload. Therefore, in the utilitarian product condition, *H1* was confirmed, since individuals under time pressure and exposed to six alternatives to choose from (choice overload) decided to postpone their decisions less than individuals without time pressure. It is important to note that individuals exposed to low choice overload did not suffer the effects of time pressure, with the effect being noticeable only in the condition of choice overload.

In this regard, it is believed that the individual can focus on only one attribute when given many options to choose from. With time pressure and with the use of heuristics, the individual might present less doubts and questions regarding the purchase (e.g. future regrets), due to comparing only one attribute. When many items are displayed to the participant, but without time pressure, the level of postponement is significantly higher, indicating a certain level of doubt or confusion regarding the attributes of the product and their worth, causing the choice to postpone the decision. This may explain why time pressure presented the effect of diminishing postponement in sets with choice overload. On the other hand, with few alternatives (two presented in this study) the comparison is easier regarding time, allowing for more attributes to be compared (at least in terms of individual perception).

The characteristic of the type of product also seems to have an influence in this regard, with the interactions being expressive for the utilitarian product and not for the hedonic product. In the hedonic purchase, the comparison of options and the knowledge of the different attributes are also factors that generate pleasure (Babin *et al.*, 1994), which inevitably takes time to be done and would eliminate the effect of time pressure. However, it is worth noting the low levels of choice postponement for the hedonic product in both

the study with fewer options and in the study with choice overload. These results support the findings of Sela *et al.* (2009), who identified that the hedonic choice is made when there is a plausible reason and, in the scenarios presented in this study, the participants were invited to simulate the loss of their MP3 player containing their favorite songs, which leads to a reason to make the choice.

Taking these discussions into consideration, this study contributes to the literature in three ways. First, the study reinforces the effects of time pressure in the decision-making process by evidencing that individuals postpone less their decisions. However, this study sought to qualify the relationship evidenced in the literature. For that purpose, second, the study offers evidence of the positive effects of time pressure to reduce the purchase postponement in conditions of choice overload, i.e., when it is difficult to compare the options. Finally, the third theoretical contribution of the work comes from the type of decision involved. More specifically, the study contributes to the literature by investigating if the relationship between the number of options and time pressure with purchase postponement is conditioned by the nature of the consumption (utilitarian vs hedonic), investigating an aspect that had not been exploited by previous studies. The finding supports that the type of decision involved conditions the effects of time pressure and choice overload.

Beyond the theoretical implications, the results also offer important managerial implications. The findings of this study may be useful for retailers to plan both the mix of products to be offered and the mechanisms of time pressure in consonance with the type of decision the consumer is making. Considering products mostly utilitarian (e.g. modem), when there are few alternatives for the client, there is no need to create time pressure mechanisms, because time is not a stress factor to evaluate a set with few options. However, when dealing with a large variety of options of the same product, the recommendation is for the retailer to plan actions with limited time (e.g. sales) to avoid the postponement of the choice (purchase), because perceived time pressure causes the consumer to opt for one of the offers presented. The offer of utilitarian products requires attention to the amount offered and to the time available for the purchase.

On the other hand, both time pressure and choice overload do not directly (or through interaction) influence the levels of choice postponement of a predominantly hedonic product. For that matter, retailers should not adopt discount sales or limited time offers that generate scarcity, under the risk of dispensing monetary and non-monetary efforts without indications of return. Furthermore, for products of hedonic nature, consumers take pleasure in seeking for details and comparing items and time pressure and choice overload do not influence this process when the individual has a justification for making the purchase.

Limitations and suggestions for future studies

One of the explanations for the results deals with the anticipated regret that the individual may experience. Therefore, for future study we suggest the inclusion of this variable to broaden the understanding spawned by this work. Moreover, the landscape chosen by the study presented sets with two and six alternatives to be chosen from by the participant and sets with more options can be relevant for studies to analyze the complexity of the options in more extreme situations.

This research is also limited by only performing an experimental study, even though of high complexity (being a mixed design), which raises important explanations and implications, but also elicits other studies to be more operationalized to better clarify the alternative explanations mentioned to understand the effects of time pressure over choice postponement when choice overload and type of purchase are present.

The study is also limited by the two products operationalized in the manipulation of the type of purchase. Even though these products were chosen after due exploitation with individuals in the same demographics as those in the study, the work should be replicated in other products to verify the extension of the findings. Additionally, we suggest the application to the choice of services. We also suggest the measurement and the control of the involvement that the individuals have with the product or category, since higher levels of involvement might mean lower levels of postponement, with the possibility of the individual easily applying heuristics to make a decision (e.g. considering previous decisions).

Finally, we suggest that future studies approach different pressures, not only time pressure, as approached in this study, but making the individual feel pressured to make a decision caused by different factors, other than time. This path may bring important contributions for understanding choice postponement, in face of modern life and the turmoil of large cities, as well as the many ways of pressure for decision.

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Corresponding author

Kenny Basso can be contacted at: bassokenny@gmail.com

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