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Perceptions of unfairness in price increases: an experimental study

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RESUMO

Percepção de injustiça em aumentos de preço: um estudo experimental

Neste artigo, apresenta-se experimento realizado com o objetivo de investigar os antecedentes e as consequências da percepção de injustiça em uma situação de aumento de preço. No modelo teórico proposto afirma-se que a dependência do consumidor em relação ao fornecedor do serviço e a relevância que o consumidor atribui ao serviço afetarão os graus de percepção quanto à injustiça de preços, de raiva e de intenções de reclamar e retaliar. Os resultados dão suporte a todas as hipóteses especificadas no modelo. Os resultados indicam que certas situações de percepção de injustiça não apenas levam a emoções mais fortes e reações mais dramáticas por parte de consumidores, mas também permitem que se antecipem quais as situações de injustiça percebida que oferecem maiores riscos e maior potencial de conflito.

Palavras-chave: injustiça de preços, aumento de preço, raiva, relevância do serviço, dependência do fornecedor do serviço.

1. INTRODUCTION

Consumers expect fair pricing practices and are particularly sensitive to price increases considered unacceptable or unfair. Evidence suggests that perceptions of unfair pricing practices can harm a company's image and limit its profits (Campbell, 2007). Most research on this topic, however, has focused on the cognitive factors related to these perceptions. This study investigates the relationships between the unfairness perception, negative emotions and behavioral intents. Furthermore, concerning the antecedents of the unfairness price perception, we evaluate the impact of two other variables: the degree of consumer dependence on the service provider and the relevance of the service itself.

We examine the antecedents and consequences of the price unfairness perceptions in a scenario in which the perception that a price increase is unfair already exists. In such scenario, with regard to the antecedents of the unfairness

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perception, we will investigate, first, if such a perception becomes stronger as the degree of consumer dependence on the provider increases. The degree of dependence on the provider can be due to either lack of competition, or high costs of changing (Joshi & Arnold, 1997).

Secondly, we will examine if the unfairness perception becomes stronger as the degree of the service relevance to the consumer increases. We suggest that the higher the relevance to the consumer, the stronger the perception that a price increase is unfair. Thirdly, we will examine the interaction effects of relevance and dependence on the price unfairness perception. We expect that when both relevance and dependence are high, the judgment of fairness will reach the highest levels of intensity. With regard to the consequences of the unfairness perception, we propose that the higher the unfairness perception, the stronger the feelings of anger associated with the perception. We also investigate how anger relates to different consumer behavioral intentions.

2. THEORETICAL BASIS

Kahneman, Knetsch and Thaler (1986) introduce the notion that, in addition to legal and budget restrictions, community principles of justice tend to restrict businesses' efforts to maximize profits. They propose that a principle of *dual entitlement* (*italics in the original*) governs community standards of fairness. In other words, consumers and companies alike have established rights in terms of the so-called *reference transaction*. A reference transaction is characterized by a reference price for the consumer (market prices, posted prices and the history of previous transactions) and by a positive reference profit for the company. The company must not violate the principle of dual entitlement to arbitrarily increase its profits. However, when the reference profit is threatened (by increasing costs, for example) consumers tend to perceive price increases as fair or acceptable.

Although the Kahneman *et al.* (1986) research did break ground with respect to consumer perceptions of price fairness, they did not investigate its direct impacts on consumer behavior. Their main conclusions showed that price fairness: is regulated by social norms; can affect market behavior; is a variable that cannot be ignored by the consumer behavior microeconomics field and; can be summarized by a number of informal customers' entitlements. Until the mid 1990s, the majority of published studies on price fairness perceptions were concerned with confirming or refuting the conclusions of the Kahneman *et al.* (1986) study (see details in Urbany, Madden & Dickson, 1989; Kalapurakal, Dickson & Urbany, 1991; Maxwell, 1995).

In the late nineties, the research on price fairness began to take into account additional psychological aspects of fairness judgments, underscoring the importance of motives, control and causes of the price increase (Campbell, 1999; Vaidynathan & Aggarwal, 2003). Campbell (1999) shows that when the

consumer judges the fairness of a price increase, he/she, besides making inferences about supplier cost/profits (as proposed by Kahneman *et al.*, 1986), also makes inferences about the company's intentions/motives in setting the price. Motives perceived as being negative, such as exploiting a situation to increase profits, lead to perceptions of unfairness and to lower intention to buy.

Xia, Monroe and Cox (2004) propose a conceptual model of antecedents and consequences of the perception of fairness in prices. They stress that research, until then, had essentially focused on the cognitive aspects of this judgment and neglected the emotional aspects. The authors pointed to the need to study consumer emotions, in line with the present trend of consumer research (Bagozzi, Gopinath & Nyer, 1999), and suggest that the field of fairness perception in prices holds some important research opportunities. The field lacks empirical studies that examine the unfairness perceptions and the consumers' emotions in situations of price increases, as well as the consequences of such increases in terms of behavioral intent.

Despite the fact that the literature on unfairness indicates that people perceive some injustices as being more serious than others, and that this perception leads to stronger negative emotions, especially anger (Finkel, 2001), the issue has been examined in the specific literature only in more recent studies (Campbell, 2007; Schweitzer & Gibson, 2008; Namkung & Jang Soo, 2010). The literature on price fairness does not yet allow us to predict, for instance, which price increase situations will lead to the most negative reactions and which consumer segments are more likely to react. Two factors that are important to the consumer when judging the unfairness of a price increase have not been yet examined: the degree of consumer dependence on the provider and the relevance of the service to the consumer. The importance of these variables has already been established in other areas of marketing research (Lauren & Kapferer, 1985; Gotlieb, Schlacter & St Louis, 1992; Joshi & Arnold, 1997; Nyer, 1997).

Among the studies conducted, only a few investigated the context of continuous services, where the relationship between the consumer and the provider is of long term (Joshi & Arnold, 1997; Nyer, 1997). These studies indicate that the costs of changing may lead consumers who judge a price as unfair not to switch providers in the short term. However, even if consumers do not take this step, they have a high potential to cause damage to the provider of services through their short-term behavior. Moreover, in a longer term perspective, the provider may experience the effects of the perceived unfairness through the loss of client loyalty and high turnover rates.

3. HYPOTHESES

The hypotheses we tested are grounded in the few relevant proposals in the literature and can be summarized as follows: consumers judge some price unfairness situations as being more

serious and severe than other situations (Finkel, 2001), and the perceived severity of the situation is related to the level of dependence on the provider and the level of relevance of the service; the intensity of the perceived unfairness is positively correlated to the intensity of anger; and anger affects behavior intent.

3.1. Consumer dependence

Consumer dependence is a measure of consumer perception regarding the availability of similar alternatives and the switching costs involved in adopting a new product or service provider (Joshi & Arnold, 1997). This includes monetary costs, time, effort and psychological costs (Hoffman & Kelley, 2000). A sense of entrapment and exploitation may occur every time a consumer perceives that a company is benefiting from a situation of dependence and using its power against him/her (Chauvel, 2000). Therefore, we propose that in a situation where a price increase is perceived to be unfair, higher levels of dependence will exacerbate the sense of unfairness and lead to stronger emotions. The higher dependence will trigger the feeling of social injustice that individuals tend to consider more serious, the “punished innocent” category, when people in a weaker position and unable to react are financially exploited (Finkel, 2001).

H₁: In a context in which the perception that a price increase is unfair already exists, the higher the dependence degree on the service provider, (a) the higher the degree of perceived price unfairness, (b) the stronger the feelings of anger, (c) the stronger the intention to complain, and (d) the stronger the intention to retaliate.

3.2. Relevance of the service

The relevance of a service is a measure of the importance of the service to the consumer and will affect consumer cognition and emotions with respect to the service (Lauren & Kapferer, 1985; Gotlieb *et al.*, 1992). Specifically, the more relevant a service is, the more the consumer worries about it, and the more intense are emotions related to such a service (Nyer, 1997). Higher levels of involvement and relevance are usually associated with more deliberate decision processes and deeper information processing (Lauren & Kapferer, 1985). For instance, in situations of high involvement, the consumer will tend to pay more attention to price and information (Gotlieb *et al.*, 1992). There is also evidence that consumers with high involvement with a service express greater desire to receive fair treatment (Varki & Wong, 2003). The higher relevance of the service should also make the injustice situation more personal, so the perceived unfairness of the price increase will have a stronger effect on the consumer. Therefore, we propose that in a situation of a price increase that is perceived to be unfair, higher levels of relevance will lead to stronger feelings of unfairness and also to stronger emotions

H₂: In a context in which the perception that a price increase is unfair already exists, the higher the degree of relevance of the service to the consumer, (a) the higher the degree of perceived price unfairness, (b) the stronger the feelings of anger, (c) the stronger the intention to complain, and (d) the stronger the intention to retaliate.

3.3. Interaction effects

When both, dependence and relevance are high, we have a situation in which the consumer faces high costs of change and a sense of entrapment (Joshi & Arnold, 1997; Hoffman & Kelley, 2000). In this scenario, we envision that the consumer feels very weak, with little capacity to react and succeed. Hence, the combination of dependence and relevance tends to raise the central archetype of injustice: the struggle of the strong and the weak (Finkel, 2001). Therefore, we propose that relevance and dependence interact such that when both are high, the perception of injustice and the emotions will be more intense than in any other situation.

H₃: In a context in which a perception that a price increase is unfair already exists, dependence and relevance interact such that when both are high, (a) the degree of perceived unfairness, (b) the feelings of anger, (c) the intention to complain, and (d) the intention to retaliate will be higher than in any other combination of relevance and dependence.

3.4. Unfairness and anger

According to Roseman (1991), unfairness perception (also called illegitimacy or moral value by the author) may generate negative emotions such as fear, frustration, anger and guilt. Finkel (2001) provides evidence that people judge some situations to be more unfair than others, and that more serious unfairness episodes evoke stronger emotions. Namkung and Jang Soo (2010) found that setting reasonable prices and providing efficient services in a timely manner were key factors in avoiding negative emotion and their findings have been confirmed by other empirical studies. For instance, Frijda (1993) and Berkowitz and Harmon-Jones (2004) also investigated the relationship between anger and unfairness, supporting the association. Kuppens, Van Mechelen, Smith and De Boeck (2003), in their study regarding to the subject, where cognitive judgments correlate with anger, concluded that the unfairness perception is the most important basis for anger. Xia *et al.* (2004) proposed that perceptions of price unfairness, when the consumer is at a disadvantage position, should lead to negative emotions such as disappointment and anger. Schoefer and Ennew (2005) showed that different degrees of justice during service recovery can have either a positive or negative impact on consumers' emotional state. Considering this evidence, it is to be expected that perceptions of price unfairness generate negative emotions, especially anger and its variations.

H₄: In a context in which a perception that a price increase is unfair already exists, the higher the perceived price unfairness, the stronger the feeling of anger.

3.5. Behavioral intentions

Bagozzi *et al.* (1999) suggest that emotions can result in specific actions to affirm or cope with the situation, depending on its nature and meaning for the person experiencing it. We assume that negative emotions will influence behavioral intentions towards service providers. When negative emotions generated by a situation of unfairness, especially anger, appear, individuals not only complain and protest in order to restore justice, but also to punish and retaliate against those apparently responsible for the violation (Kim & Mauborgne, 1997). In fact, Xia and Monroe (2005) also found evidence that negative emotions generated by the price unfairness perception lead to intentions to buy less in the future, complaints, and a desire to punish the salesperson. Thus, based on previous research, we predict that anger will mediate the relationship between perceived unfairness and behavioral intentions.

H₅: In a context in which a perception that a price increase is unfair already exists, anger mediates the effects of perceived unfairness of a price increase on intentions to complain, and intentions to retaliate.

A scheme of the proposed effects appears in Figure 1.

4. RESEARCH METHOD

This study used a 2 X 2 between-subject factorial design, crossing relevance (high and low) and dependence (high and low).

Participants were undergraduate (30% of the sample) and graduate (70%) students enrolled in business programs in one of the following majors: General Management, Finance and Marketing. They were all students at the same private university, located in the city of Rio de Janeiro. There were 260 participants (65 subjects in each cell) and 248 valid questionnaires, evenly distributed across the four experiments. The majority (82%) of the respondents were between 20 and 40 years old.

The subjects filled out a self-report questionnaire with the manipulation checks and measures of the dependent variables. All the scenarios and scales developed were evaluated and validated in a previous test involving 126 participants. The pre-test was performed in two stages. In the first stage, participants responded to questionnaires related to the High relevance/High dependence and Low relevance/Low dependence cells. Then, right after finishing the questionnaires, they participated in a focus group session in which they expressed their perceptions and doubts about the scenarios, the scales and the type of service studied. Table 1 reports the items, factor loading and Cronbach alphas.

4.1. Basic scenario

The stimuli consist of scenarios describing a company's decision to increase a price in a context of private education services. The basic scenario described an unfair price increase situation in the context of private education services. After acquiring its competitor, an educational institution intends to increase its profits through an increase in tuition. The decision regarding the kind of service to be selected for the

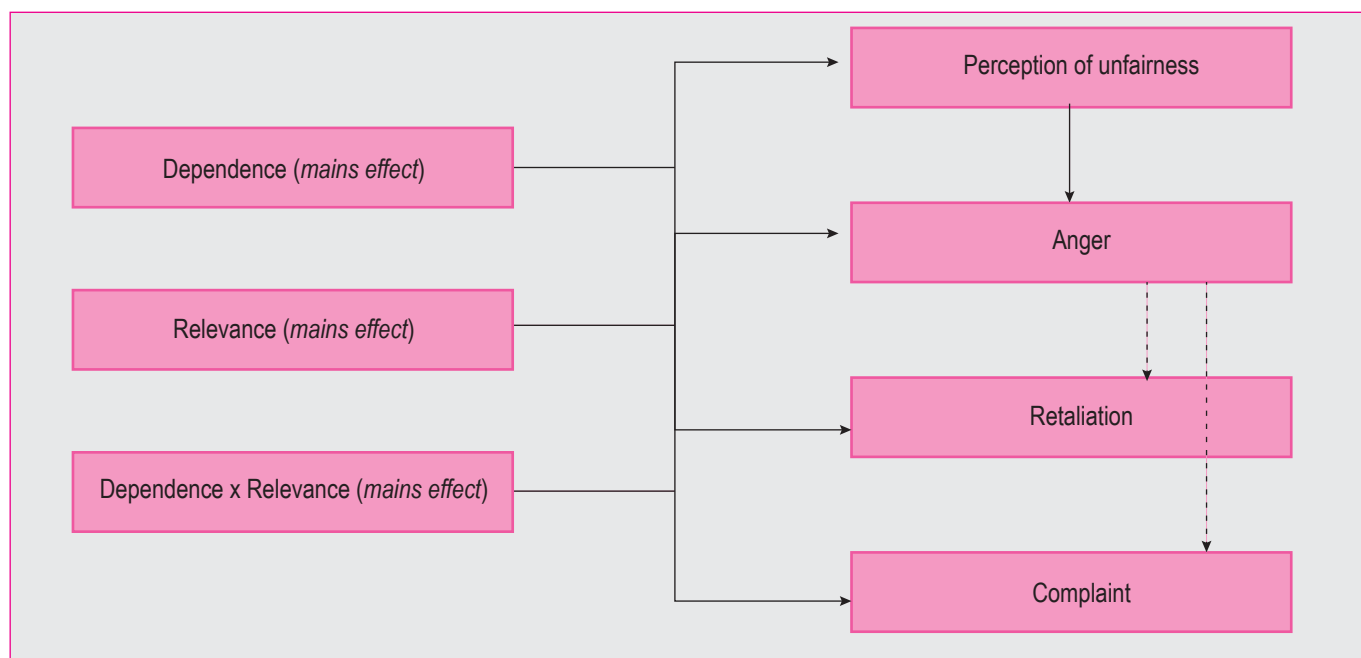


Figure 1: Relations Among Antecedents and Consequences of Perceived Unfairness

Table 1
Measurement Items, Factor Loading, Cronbach Alphas and Correlation Coefficient

Construct	Items	Loading	Cronbach Alpha	Correlation Coefficient
Dependence			0.88	
	If your friend decides to stop using the service provided by this company	0.888		
	Your friend does not have many options of equivalent quality	0.901		
	Considering the information from the text, your friend's son would lose a lot if he switched service providers	0.901		
	In general terms, the cost of time, effort and anxiety involved in the change of service provider would be high	0.747		
Relevance			0.89	
	This service is very important to your friend	0.898		
	To your friend, this service does not matter	0.906		
	The service is an important part of your friend's life	0.905		
Unfair motive			0.71	
	The service provider intended to increase profits with the price increase	0.811		
	The service provider intended to take advantage of the consumers with the price increase	0.735		
	The service provider did not have good intentions increasing the prices	0.754		
Anger			0.94	
	Mad	0.841		
	Enraged	0.856		
	Irritated	0.890		
	Furious	0.885		
	Angry	0.884		
	Indignant	0.768		
	Upset	0.691		
Retaliation			0.76	
	Write a letter to a newspaper	0.650		
	Use the internet to spread the word about the shoddy treatment served up by the company	0.753		
	Try to retaliate against the company	0.768		
	Sue the company	0.757		
Complaint			0.406; $p < 0.001$	
	Complain directly to the service provider	0.866		
	Complain to the official consumer protection agency	0.495		

basic scenario was made during the pre-test phase taking into account participants' attitudes towards three service sectors: private education, private health and telecommunications.

To avoid biased results, it was deemed necessary to choose a service that produced neither extreme negative nor extreme positive emotions in the participants of the experiment. For example, due to consumer lawsuits, services

with high media visibility tend to be pre-judged before the scenario is read. Consequently, the private education service was selected for the study. Before the experiment, the participants answered a scale on attitude for the chosen service. The scale ranged from 1 to 9 and followed the standards of attitude measuring scales used in consumer behaviour literature (Bruner II, Karen & Hensel, 2001):

“Bad / Good”; “Unfavourable / Favourable”; “Dislike / Like”; “Negative / Positive” (Cronbach alpha 0,92).

Subjects in all cells were expected to infer that the price increase was unfair. The principle of dual entitlement (Kahneman *et al.*, 1986) suggests that a price increase to arbitrarily increase the company's profits violates basic community standards and will be perceived as unfair. Campbell (1999) shows that consumers make inferences about motives in setting the prices and motives perceived as negative lead to perception of unfairness. The basic scenario included information on the service price increase percentage. This percentage was defined in the pre-test phase by asking each participant what percentage they would consider acceptable in a scale of 0 to 20%. The value with the most number of responses was 20% and therefore it was the value chosen. Participants evaluated the service provider's motives (*unfair motive* construct) to increase the price on a three-item scale from 1 (“strongly disagree”) to 9 (“strongly agree”).

4.2. Independent variables

The experimental factors of relevance and dependence were manipulated by including different pieces of information in the basic scenario. Previous research has found that consumer's dependence on the provider can be due to either lack of competition or high costs of changing (monetary, time, or psychological) (Joshi & Arnold, 1997). Consumer's relevance relates to the necessity and importance of the service in the consumer's life (Lauren & Kapferer, 1985; Nyer, 1997). Thus, (a) the high (low) dependence scenario simulates a situation for the participants in which the consumer perceives higher (lower) costs of change and higher (lower) restrictions in terms of similar offers and (b) the relevance scenario simulates

situations with a higher (lower) importance of the service, given the consumer needs. The scenarios are presented in Figure 2.

4.3. Dependent variables

The dependent variables are *perception of unfairness*, *anger* and *behavioral intentions* (*intentions to complain*, *intentions to retaliate*). After reading through the scenario, each participant provided unfairness evaluations of the price increase on a scale from 1 (“not unfair at all”) to 9 (“extremely unfair”), based on Finkel (2001). *Anger* was evaluated on a nine-point scale from 1 (“not at all”) to 9 (“extremely”). This scale was developed in the pre-test and was tested and validated with the final sample of the experiment, according to the recommendations in the literature (Richins, 1997; Bagozzi *et al.*, 1999; Netemeyer, Bearden & Sharma, 2003). *Behavioral intentions* were also evaluated on a nine-point scale from 1 (“no possibility”) to 9 (“extremely possible”). The scale was adapted from Zeithaml, Berry and Parasuraman (1996) and Xia and Monroe (2005), and comprised two dimensions: *Intention to complain* and *intention to retaliate*.

4.4. Manipulation checks

Participants evaluated *dependence* on a nine-point scale from 1 (“strongly disagree”) to 9 (“strongly agree”), with the items following Bruner II *et al.* (2001). Next, participants evaluated *relevance of the service* on a nine-point scale from 1 (“strongly disagree”) to 9 (“strongly agree”) with the items following Lauren and Kapferer (1985). Participants, ages, gender and attitude towards the service were collected as possible covariates. Analyses revealed that none of these factors had

Scenarios
High relevance: “A friend of yours has a ten-year-old son who attends a private elementary school. Your friend wants to give his son a high quality education. According to your friend, the monthly tuition fees represent a large share of his monthly budget.”
Low relevance: “A friend of yours has a ten-year-old son who attends theater classes at a private theater course. Your friend wants to give his son a high quality education that includes recreational activities. According to your friend the monthly tuition he pays for the theater course represents a small share of his monthly budget”.
The basic scenario: In the beginning of the school year, your friend was informed that the school was being acquired by a competitor and that there would be a 20% increase in tuition. This increase is higher than the inflation rate for the same period and much higher than increases made in previous years. Shortly after the increase was announced, your friend found out from someone, who knows the school principal, that the new management was aiming at a significant increase in profits by raising tuition.
High dependence: “Your friend is very worried. With the acquisition of the school by a competitor, he was left with no options of private elementary schools in the city of equivalent quality that offered lower monthly tuition fees. Moreover, his son does not want to be transferred to other school since his network of friends consists of his classmates, and he would, therefore, face difficulties adapting to a new environment.
Low dependence: “Your friend is not too concerned: Even though a competitor acquired the theater course, there are other options of courses in the city which charge lower monthly tuition with an equivalent quality. Besides, his son would not mind being transferred from one course to another, because he has few friends who attend other courses and, therefore, he would not face difficulties adapting to a new environment”.

Figure 2: Scenarios

any effects as covariates, and were therefore excluded from the subsequent analysis.

5. RESULTS

All scales were submitted to a factor analysis. The principal component analysis derived nine factors with *eigenvalues* greater than one 1, explaining 70.32% of the variance. Next, we employed an oblique factor rotation and examined the factor matrix of loadings to obtain the final factor structure. The manipulation checks showed that the scenarios were perceived as intended. The dependence scale presented greater scores in the high vs. low condition ($F(1,243)=279.48; p<0.000; M_{\text{high}}=4.89$ vs. $M_{\text{low}}=4.44$). The relevance scale presented greater scores in the high condition ($F(1,243)=102.75; p<0.000; M_{\text{high}}=7.35$ vs. $M_{\text{low}}=5.05$). The two conditions did not associate to each other ($\chi^2=.01$). The summated scales method was adopted. The separate variables of each construct were summed and their average score was used in the analysis. Analysis of the participants' ratings allowed for verification that the price increase was considered unfair (overall mean score of the unfair motive construct = 7.19; standard deviation = 1.56). In all cells, the mean unfairness score was higher than the mid-point of the scale.

5.1. Main effects

A MANOVA model was used to analyze all variables. Figure 3 reports the dependent measures. In support of H_1 , we found a significant main effect for dependence on price unfairness

($F(1,243)=12.95; p<0.000; M_{\text{high}}=7.50$ vs. $M_{\text{low}}=6.68$), anger ($F(1,243)=16.91; p<0.000; M_{\text{high}}=6.51$ vs. $M_{\text{low}}=5.46$), retaliation ($F(1,243)=3.77; p<0.000; M_{\text{high}}=3.40$ vs. $M_{\text{low}}=2.97$) and complaint ($F(1,243)=5.63; p<0.000; M_{\text{high}}=7.52$ vs. $M_{\text{low}}=6.96$). In support of H_2 , we found a significant main effect for dependence on price unfairness ($F(1,243)=6.26; p<0.01; M_{\text{high}}=7.39$ vs. $M_{\text{low}}=6.81$), anger ($F(1,243)=20.45; p<0.000; M_{\text{high}}=6.56$ vs. $M_{\text{low}}=5.41$), and retaliation ($F(1,243)=4.33; p<0.000; M_{\text{high}}=3.42$ vs. $M_{\text{low}}=2.96$), but not on complaint ($F(1,243)=.12; p=NS$).

5.2. Interaction effects

The results reveal a significant relevance x dependence interaction on price unfairness ($F(2,243)=8.00; p<0.000$), anger ($F(2,243)=13.44; p<0.000$), retaliate ($F(2,243)=4.49; p<0.004$), and complaint ($F(2,243)=2.92; p<0.03$). Given the overall interaction, an analysis was conducted to interpret the pattern of results. The results are presented in Table 2 and are summarized below.

The results support H_3 . The subjects in the high relevance / high dependence group experienced significantly higher levels of perceived unfairness, anger, and intentions to retaliate and complain condition than the subjects in the other three groups (a univariate analysis of variance with the Scheffé post hoc procedure examined the group differences across all pairs of each dependent variable, with similar results).

Next, the pattern of contrasts was examined in the context of high relevance conditions. In this case, subjects in the high dependence group experienced higher levels of perceived unfairness, anger, and intentions to complain and retaliate than the

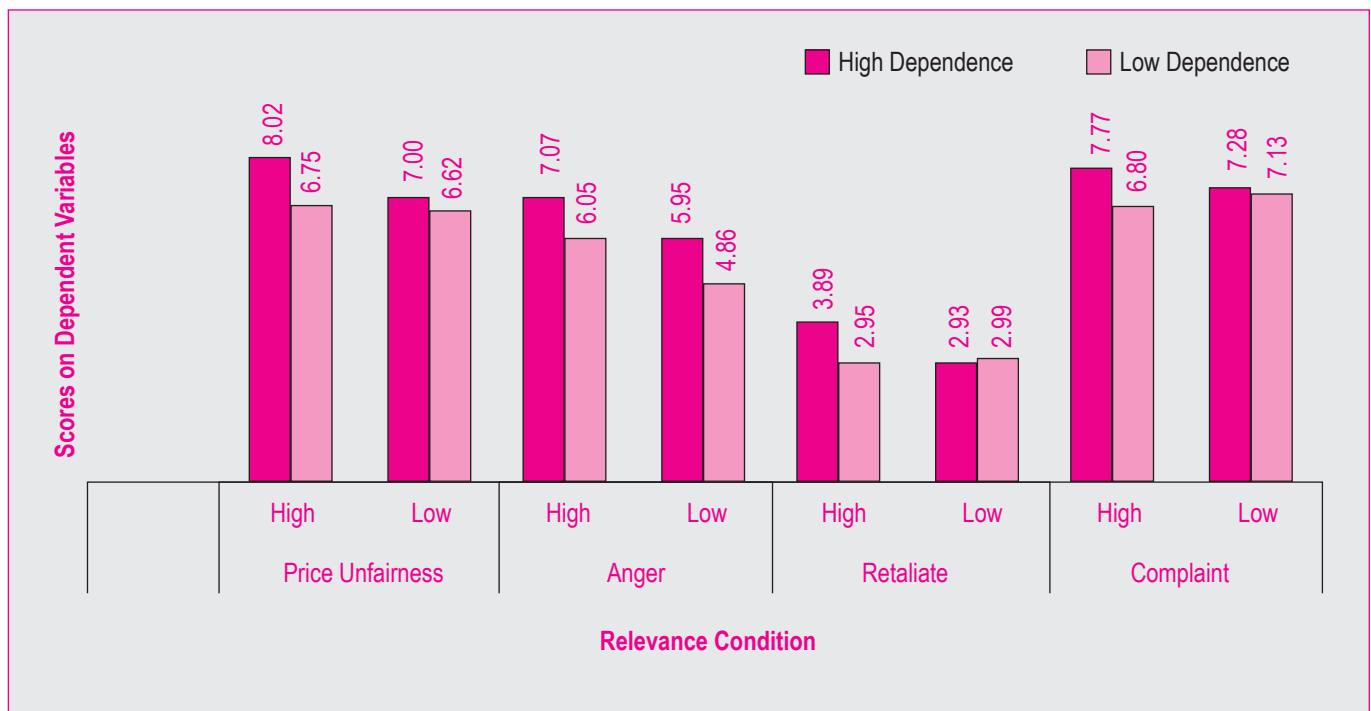


Figure 3: Dependent Measures

Table 2
Multiple Comparisons

Dependent Variables	Conditions	Contrast	F-value	p-value
Price unfairness	High dependence	High relevance x Low relevance	Mhigh=8.02 vs. Mlow=7.00; F(1,124)=18.27	0.000
	Low dependence	High relevance x Low relevance	Mhigh=6.75 vs. Mlow=6.62; F(1,121)=0.18	NS
	High relevance	High dependence x Low dependence	Mhigh=8.02 vs. Mlow=6.75; F(1,123)=15.77	0.000
	Low relevance	High dependence x Low dependence	Mhigh= 7.00 vs. Mlow=6.62; F(1,123)=1.76	NS
Anger	High dependence	High relevance x Low relevance	Mhigh=7.10 vs. Mlow=5.95; F(1,124)=11.62	0.000
	High dependence	High relevance x Low relevance	Mhigh=6.05 vs. Mlow=4.80; F(1,121)=12.25	0.001
	High relevance	High dependence x Low dependence	Mhigh=7.07 vs. Mlow=6.05; F(1,123)=9.207	0.003
	Low relevance	High dependence x Low dependence	Mhigh=5.95 vs. Mlow=4.86; F(1,123)=11.01	0.001
Retaliation	High dependence	High relevance x Low relevance	Mhigh=3.89 vs. Mlow=2.92; F(1,124)=8.96	0.003
	Low dependence	High relevance x Low relevance	Mhigh=2.95 vs. Mlow=2.99; F(1,121)=0.00	NS
	High relevance	High dependence x Low dependence	Mhigh=3.89 vs. Mlow=2.95; F(1,123)=8.93	0.003
	Low relevance	High dependence x Low dependence	Mhigh=2.92 vs. Mlow=2.99; F(1,123)=.015	NS
Complaint	High dependence	High relevance x Low relevance	Mhigh=7.77 vs. Mlow=7.28; F(1,124)=2.98	0.08
	Low dependence	High relevance x Low relevance	Mhigh=6.80 vs. Mlow=7.13; F(1,121)=0.86	NS
	High relevance	High dependence x Low dependence	Mhigh=7.77 vs. Mlow=6.80; F(1,123)=7.25	0.008
	Low relevance	High dependence x Low dependence	Mhigh=7.28 vs. Mlow=7.13; F(1,123)=0.17	NS

subjects in the low dependence group. Under conditions of low relevance, subjects in the high dependence group and subjects in the low dependence group did not experience significantly different levels of perceived unfairness and intentions to complain and to retaliate, but experienced different levels of anger.

Under conditions of high dependence, subjects in the high relevance group also experienced higher levels of perceived unfairness, anger, and intentions to complain and retaliate than the subjects in the low dependence group. Under conditions of low dependence, subjects in the high relevance group and subjects in the low dependence group did not experience significantly different levels of perceived unfairness and intentions to complain and to retaliate. The exception was, again, when it came to anger.

Figure 4 presents the partial eta squared (η^2) and reveals that the variance explained increased from the main effect to the interaction effect, as expected. The effects of the relevance x dependence interaction amplified the variance on the dependent variables.

5.3. Unfairness and anger

Hypothesis four is that there is a positive and significant correlation between unfairness and anger. The results support this hypothesis ($r=0.56$; $p<0.000$). This result is consistent with the proposition that anger is an emotion that correlates with perceived unfairness (Frijda, 1993; Weiss, Suckow & Cropanzano, 1999; Kuppens, Van Mechelen, Smits & De Boeck, 2003; Berkowitz & Harmon-Jones, 2004; Xia *et al.*, 2004). In a situation in which there is a pre-existing perception of unfairness in price increase, the greater the perceived unfairness, the more

intense the feeling of anger against the company. Furthermore, (a) there is a significant correlation between anger and retaliation ($r=0.44$; $p<0.000$) and (b) there is a positive and significant correlation between anger and intention to complain ($r=0.30$; $p<0.000$). The correlation coefficient between retaliation and complaint ($r=0.36$; $p<0.000$), retaliation and price unfairness ($r=0.32$; $p<0.000$) complaint and price unfairness ($r=0.32$; $p<0.000$) also show expressive results.

5.4. Mediation effects

With regards to mediation effects, in contrast to moderating (Vieira, 2010), a variable may be considered a mediator to the extent to which it carries the influence of a given independent variable to a given dependent variable. In order to examine this, we use Baron and Kenny's (1986) four steps suggestion, positioning anger as key mediator variable. In addition to Baron and Kenny's (1986) procedure, Sobel's (1982) test was performed to confirm the mediation hypothesis, taking the following equation: $Z\text{-value} = a \times b / \sqrt{(b^2 \times s_a^2 + a^2 \times s_b^2)}$. In that equation, the beta unstandardized regression coefficients (a and b) and standard error values (s_a and s_b) were used. If the Z-value was above ± 1.96 , $p<0.05$, it means that the indirect effect is different from zero, indicating the mediator influence. The mediation effect was tested on two relationships where anger (negative emotion) mediates, assuming full mediation and partial. According to Iacobucci, Saldanha and Deng (2007), full mediation occurs when the Sobel's z-value is significant, and the beta weight for the basic relationship (independent to dependent) becomes non-significant

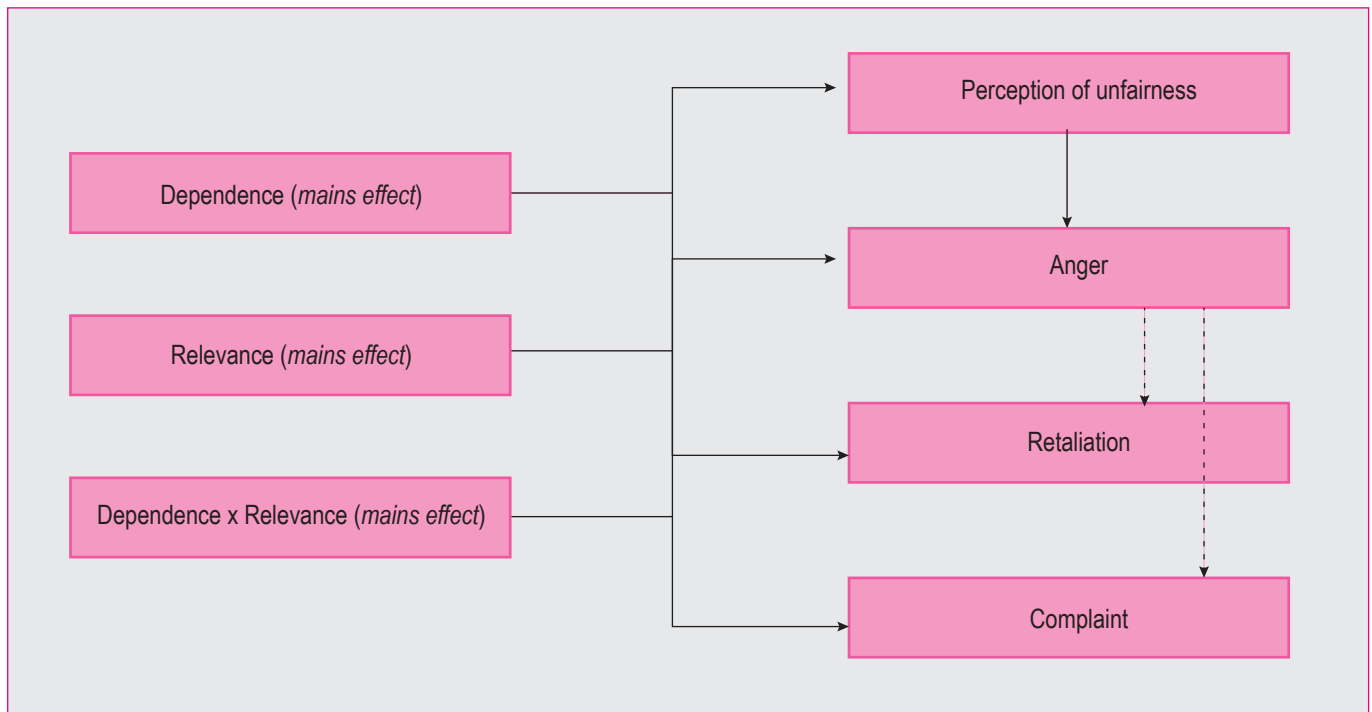


Figure 4: Eta Squares

in the second regression. Partial mediation occurs when beta values decrease their values.

First, we analyzed the impact of price unfairness on anger. The result was significant, as expected ($\beta=0.56$; $t\text{-value}=10.70$; $p<0.000$; $R^2_{adj}=0.31$). Secondly, we analyzed the impact of price unfairness on retaliation and complaint. The results were significant, as expected ($\beta=0.31$; $t\text{-value}=5.20$; $p<0.000$; $R^2_{adj}=0.09$ and $\beta=0.31$; $t\text{-value}=5.22$; $p<0.000$; $R^2_{adj}=0.10$, respectively). Thirdly, we analyzed the impact of anger on retaliation and complaint. The outcomes were expressive, as expected ($\beta=0.44$; $t\text{-value}=7.77$; $p<0.000$; $R^2_{adj}=0.19$ and $\beta=0.30$; $t\text{-value}=4.93$; $p<0.000$; $R^2_{adj}=0.09$, respectively). Fourthly, we analyzed the impact of both anger and price unfairness on retaliation and complaint. Thus, using the mediator variable, we expect the impact of price unfairness to decrease. The outcomes were expressive over retaliation, as expected ($\beta_{\text{price unfairness}}=0.10$; $t\text{-value}=1.43$; $p=\text{NS}$; and $\beta_{\text{anger}}=0.38$; $t\text{-value}=5.56$; $p<0.000$; $R^2_{adj}=0.19$, respectively) and over complaint ($\beta_{\text{price unfairness}}=0.20$; $t\text{-value}=2.83$; $p<0.005$; and $\beta_{\text{anger}}=0.19$; $t\text{-value}=2.74$; $p<0.007$; $R^2_{adj}=0.12$, respectively). Thus, anger mediated the effects of perceived unfairness on complaint ($\text{sobel}=4.80$; $p<0.000$) and on retaliation ($\text{sobel}=4.80$; $p<0.000$) and H_5 is supported.

6. DISCUSSION

The experimental data provided support for all research hypotheses in the present study. Both the service relevance and dependence on the service provider had an impact on perception

of the unfairness degree of the price increase. Furthermore, when both dependence and relevance were high, the respondents considered the intensity of the unfairness perpetrated by the company as being higher than in any other condition.

These results suggest, first, that, in situations in which there is a perception of unfairness, people, depending on the degree of relevance and dependence, appear to experience different levels of intensity in their perception. Secondly, the combination of relevance and dependence, which may turn out to reflect the degree of power that the company exerts on the market, affects the level of unfairness that a perception of a price increase will lead to.

In certain sectors, such as power distribution, public transportation and toll roads, the combination of service relevance and consumer dependence is a fact of life. In other sectors, service providers create strategies to increase consumer dependence in order to raise customer retention and influence demand elasticity. For instance, it is common for telecommunications and healthcare companies to develop mechanisms that increase consumer switching costs, such as contractual penalties. The results of this study suggest that in these sectors management should be especially careful with pricing decisions since there is a greater chance that perceptions of injustice are triggered due to issues related to relevance and dependence. Reactions to unfair prices can be strong and accompanied by high levels of anger followed by negative behaviors. Consumers are likely to engage in negative word of mouth and a variety of actions that may harm the company, sully its brand and reduce its market value. This was demonstrated by the fury of consumers who were charged outrageous prices for

gasoline after hurricane Katrina, in 2005, in the United States. Also, in Brazil, during severe landslides that occurred in 2011 in Rio de Janeiro State, there were many angry consumers protesting through social media about price increases of essential items such as water and milk. Recently, in 2013, the increase in public transportation fare prices in major Brazilian cities generated a wave of protests all over the country, forcing mayors to cancel the increases. Times of crisis generate additional scrutiny of pricing practices, as discussed by Ferguson, Ellen and Piscopo (2011).

The research presented here also furthers the understanding of feelings of anger and consumers' behavioral reactions motivated by unfairness perceptions. More than 20% of the respondents indicated that the chances they would act against the company were high, either by writing a letter to a newspaper, complaining to the official consumer protection agency, using the internet to spread the word about the injustice perpetrated by the company, suing the company, or seeking another way of taking revenge on the company. Furthermore, perceptions of unfairness, anger and intentions to complain and retaliate were consistently strong in the high dependence group. The fact that a company manages to retain a customer should not be interpreted as evidence of customer loyalty.

Managers need to keep in mind that pricing decisions may provide a sign of the company's moral and ethical standing and thus, how much society and stakeholders can trust it. Managers should also consider that price unfairness perceptions appear more often when people believe that a company has exorbitant

profit margins (Kahneman *et al.*, 1986). Therefore, when there is a low perceived quality due to poorly trained staff, poor physical facilities, or malfunctioning systems, the service provider may be accused of charging unfair prices. To avoid this it is necessary to invest in managing the perceived quality of the service, to maintain detailed and transparent communication about price increases, and relate price increases to improvements in service performance.

Some limitations of this research suggest directions for future work. A first issue to consider relates to the artificiality of the scenarios presented to the participants. The information on relevance and dependence were provided in short paragraphs. In a more natural social setting, we would expect the consumer to have more information and perform more complex evaluations. In addition, several other unexplored variables may affect consumer perceptions and emotions related to a price increase. Nyer (1997) and Xia *et al.* (2004) indicate, for instance, that the relationship between emotions and behaviors is probably mediated by the cost of confrontation, that is, the individual will probably evaluate the consequences of engaging in confrontation activities. Finally, we relied on convenience samples of undergraduate students. Although the use of students is well accepted in this stream of research, this practice creates an issue of external validity (Sears, 1986; Druckman & Kam, 2011). It is conceivable that students reactions are different from those of the general population. Research using randomly selected subjects from the general population would increase the generalizability of the results.

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ABSTRACT

Perceptions of unfairness in price increases: an experimental study

This experimental study investigates antecedents and consequences of perceptions of price unfairness in a price increase situation. The proposed theoretical model states that consumer dependence on the service provider as well as the relevance the consumer attributes to the service (for the consumer's life) will affect his/her degree of (a) unfairness price perception, (b) anger, and (c) intention to complain and retaliate. The results support all the hypotheses specified in the model. The findings not only indicate that some situations of unfairness price perception lead to stronger emotions and more dramatic reactions from consumers, but also allow us to predict which situations of perceived unfairness offer greater risks and have greater potential for conflict.

Keywords: price unfairness, price increases, anger, service relevance, service provider dependence.

RESUMEN

Percepción de injusticia en aumento de precio: un estudio experimental

En este artículo se presenta un estudio en que se analizan los antecedentes y las consecuencias de la percepción de injusticia en una situación de aumento de precio. En el modelo teórico propuesto se afirma que la dependencia del consumidor con relación al proveedor del servicio y la relevancia que el consumidor atribuye al servicio afectarán el grado de percepción cuanto a injusticia de precios, rabia e intenciones de queja y represalia. Los resultados sostienen todas las hipótesis especificadas en el modelo e indican que determinadas situaciones de percepción de injusticia no sólo conducen a emociones más fuertes y reacciones más dramáticas por parte del consumidor, sino que también permiten que se anticipen aquellas situaciones de injusticia percibida que presenten mayores riesgos y alto potencial de conflicto.

Palabras clave: injusticia de precios, aumento de precio, rabia, relevancia del servicio, dependencia del proveedor del servicio.