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# Customers' Reactions to Price Increases: Do Customer Satisfaction and Perceived Motive Fairness Matter?

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*Most of the previous research on price changes has focused on price decreases. This article investigates the effects of price increases at an individual level. The authors argue that customers' reactions to price increases (i.e., repurchase intentions) are strongly driven by two factors: the magnitude of the price increase and the perceived fairness of the motive for the price increase. In this context, the authors examine the role of customer satisfaction in influencing the impact of these two variables on repurchase intentions after a price increase. Their findings reveal that as satisfaction increases, the negative impact of the magnitude of a price increase is weakened. Furthermore, the results suggest that satisfaction moderates the impact of perceived motive fairness. The authors also find that the level of satisfaction can influence the valence of the perceived motives in response to a price increase.*

**Keywords:** *pricing; price increases; customer satisfaction; fairness; experiment*

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Over the years, the topic of pricing has clearly been of great interest in marketing strategy and research. To effectively set price levels as well as to change prices, companies need to understand customers' reactions to these

strategies. Most of the previous research on pricing activity, however, has focused on price decreases (e.g., Hoch, Drèze, and Purk 1994; Kalwani and Yim 1992). The reason for this emphasis is relatively straightforward since it is generally assumed that decreasing price will increase customer demand.

Fewer studies have focused on price *increases*. Although there are several important studies (e.g., Campbell 1999; Kahneman, Knetsch, and Thaler 1986a, 1986b) that examine antecedents of price fairness perceptions in the context of price increases, there are still major gaps in our knowledge in this area. In judging previous work, Sivakumar and Raj (1997) stated that although "studies make inferences about how consumers respond to price decreases, they do not examine the implications for price increases" (p. 72). Nevertheless, there are situations when price increases are advisable or needed. For example, a price increase might be needed to increase revenues or because of higher labor costs. Furthermore, high-priced or premium brands may need a price increase to maintain their image. It is important to note that "improvements in price typically have three to four times the effect on profitability as proportionate increases in volume" (Marn and Rosiello 1992:84).

A key problem, however, is that price increases can be often difficult to implement because they can generate negative reactions from customers. In particular, a price increase can lower the attractiveness and utility of the

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product, which can then lead to lower sales or even customer boycotts (Sen, Gürhan-Canli, and Morwitz 2001). Since this clearly has negative consequences for the firm, an important question becomes how potential negative reactions to price increases can be managed.

One possible way to offset the potential negative effects of a price increase would be to strive for higher levels of customer satisfaction (Anderson 1996). Common wisdom as presented in textbooks usually takes this for granted but, to the best of our knowledge, this notion has not been theoretically explained nor empirically tested. In addition, the behavioral pricing literature suggests that the perceived motive fairness behind a price increase will have an important impact on customers' reactions to a price increase (Campbell 1999).

Against this background, our research focuses on the central question of how customer satisfaction and the perceived motive behind a price increase affect customers' reactions to price increases. In relation to this general question, we investigate the following specific issues. First, does customer satisfaction weaken the negative relationship between the magnitude of a price increase and the customer's repurchase intention after the price increase, and if so, *how much* does it attenuate this relationship? Some previous research (Homburg, Koschate, and Hoyer forthcoming) suggests that highly satisfied customers are willing to pay more for a product or service. Therefore, if confronted with a price increase, the attractiveness or utility of the product will still be relatively high, and this may help to offset the negative reaction to the higher price. To the best of our knowledge, however, studies have not investigated the *moderating* role of customer satisfaction in the context of price increases. Since most research on customer satisfaction has focused on either its antecedents or its *direct* effects on outcome variables such as repurchase intentions, complaining, word-of-mouth communication, or the willingness to pay (e.g., Homburg et al. forthcoming; Smith and Bolton 2002; Szymanski and Henard 2001), the examination of a possible *moderating* role of satisfaction expands the knowledge in this research area substantially.

Second, we examine the interplay between the perceived motive fairness and customer satisfaction in the context of a price increase. Both of these constructs have been examined in isolation, but a key question is whether they interact to produce an effect in reaction to a price increase. Specifically, we analyze whether the reaction to a price increase will be more favorable when the perceived motive behind the increase is perceived as fair and whether this link will be strengthened when there is a high level of customer satisfaction.

Third, we study whether satisfaction directly affects the level of perceived motive fairness. Specifically, we examine whether satisfied customers infer fair motives for a price increase when no motive for the price increase is

provided. The possibility exists that satisfied customers may be less likely to infer unfair motives for a price increase.

Providing answers to these questions will increase our understanding of customers' reactions to price increases to a great extent. In particular, we identify certain conditions under which it is easier to implement price increases. This is important because managers typically have difficult implementation issues in this regard.

Following the suggestion of Anderson (1996) to use experimental studies to examine the relationship between satisfaction and price-related constructs, we conducted three experiments to investigate each of the three main issues. Study 1 explores whether and how much customer satisfaction attenuates the negative impact of the magnitude of a price increase on repurchase intentions. Study 2 examines the impact of perceived motive fairness on repurchase intentions and whether this relationship is moderated by customer satisfaction. Study 3 then extends the investigation to examine more directly how satisfaction affects customers' perceived motive fairness in the context of a price increase.

## STUDY 1—THE MODERATING ROLE OF CUSTOMER SATISFACTION

Basic economic theory suggests that a utility-maximizing customer will "rationally respond to changes in incremental price by marginally changing his usage level" (Einhorn 1994:105). This notion leads to the well-known downward-sloping demand curve, which indicates that higher prices are associated with less demand. This influence of price on demand has been given substantial support in the economic as well as in the marketing literature (e.g., Bolton and Lemon 1999; Einhorn 1994; Goldman, Leland, and Sibley 1984; Ng and Weisser 1974).

Most of the research in this area focuses on demand and/or consumption or usage levels. In this study, we selected repurchase intentions as the key dependent variable because they have been conceptualized as a key component of customer loyalty (Fornell, Johnson, Anderson, Cha, and Bryant 1996). In addition, repurchase intentions have been found to be a strong predictor of behavior (Sheppard, Hartwick, and Warshaw 1988). A key goal of the current study is to examine whether satisfaction prior to the price increase can moderate the relationship between the magnitude of a price increase and repurchase intention.

Customer satisfaction is defined as a postconsumption evaluation that has both cognitive and affective elements (Oliver 1981, 1997; Szymanski and Henard 2001). According to the expectancy-disconfirmation paradigm (Oliver 1980), this evaluation results from a comparison of previously held expectations to perceived product or

service performance. If product performance exactly meets expectations, confirmation occurs. If performance is above (below) expectations, positive (negative) disconfirmation occurs, and increases (decreases) in satisfaction are expected.

To explain how customer satisfaction can moderate the link between the magnitude of a price increase and repurchase intentions, we draw on economic theory. Economic reasoning suggests that the willingness to exchange depends on the buyer's expectation of receiving customer surplus from the transaction (Frank 1997). The customer surplus is "a dollar measure of the extent to which people benefit from a transaction" (Frank 1997:145).

Previous research indicates that satisfied customers are willing to pay more than dissatisfied customers (Homburg et al. forthcoming). Thus, satisfied customers should have a higher surplus than dissatisfied customers for a given price. However, a price increase reduces the customers' surplus. Research indicates that customers judge changes not in their absolute magnitude but relative to reference points (Janiszewski and Lichtenstein 1999; Niedrich, Sharma, and Wedell 2001). In this case, the initial customer surplus serves as this reference point. The key point here is that a price increase of the same magnitude has a different impact on the *relative* reduction of the customer surplus for dissatisfied than for satisfied customers. Since dissatisfied customers' initial surplus is lower, they lose a relatively higher proportion of this surplus than satisfied customers. Thus, we would expect that the effect of a price increase on repurchase intentions is stronger for dissatisfied than for satisfied customers. On the basis of the above reasoning, we propose the following hypothesis:

*Hypothesis 1: As customer satisfaction increases, the negative effect of the magnitude of a price increase on repurchase intentions is weakened.*

To test Hypothesis 1, an experimental study was conducted.

## Method

### Research Design

Study 1 involved a  $3 \times 4$  mixed between- and within-subjects design and was carried out in a restaurant context. The independent variables were *the magnitude of a price increase*, which was a within-subjects factor with three price increase levels, and *customer satisfaction*, which was a between-subjects factor with four levels.

The pricing literature offers little guidance on how to select the different price increase levels. Thus, in a pretest, participants were asked to assume a specific initial price for a restaurant visit (which was €10) and were then asked to indicate the lowest price increase that could have an impact on their purchasing behavior. The range of the

responses was from €0.25 (2.5%) to €1.50 (15%). The midrange response was €0.75 (7.5%). On the basis of these results, we selected these three points as the price increase levels. It is important to note that the reference point against which all three price increases are compared is the initial price.

As Zinkhan and Wallendorf (1985) have shown, satisfaction levels (with services) are perceived as clustering into groups and thus are amenable to experimental manipulation. To achieve different levels of customer satisfaction, expectations about the restaurant were first established (these were held constant), and then the actual experience with the restaurant was manipulated. For example, we described the restaurant as a classic Italian restaurant. Participants were asked to select a main dish from among three options, the price of the dish being independent of the actual choice of the participant. Participants were told to imagine that they would have mineral water as their drink (in order to control for widely varying drink prices). The initial price for the main dish and the mineral water was €10.

The manipulation of the actual experience was analogous to a conjoint design, similar to the approach adopted by Smith, Bolton, and Wagner (1999) in their study of the link between service failures and recovery efforts on customer satisfaction. We selected three attributes after carefully examining which variables had been used in other studies on satisfaction in restaurants (Bernhardt, Donthu, and Kennett 2000; June and Smith 1987; Tucci and Talaga 1997). These attributes were (dimensions in parentheses): quality of food (taste, freshness, preparation), ambience (interior design, loudness, temperature), and service (timing, friendliness, competence). The attributes themselves are not the focus of this study. Our purpose is to induce different levels of satisfaction in a controlled way by manipulating these attributes. Eight different scenarios were developed by varying each attribute at two levels. For each attribute, the dimensions were either all favorable or all unfavorable and were described in full sentences. The order of the attributes was randomized across the scenarios.

Four different combinations of these attributes were selected based on the results of a previous study (Homburg et al. forthcoming), which used essentially the same manipulation as the current study. The goal was to have four distinct levels of satisfaction that ranged from high to low. The satisfaction levels were high satisfaction (all three attributes were positive; satisfaction mean = 10.8, measured on an 11-point Likert-type scale with 1 = *low satisfaction*), middle-high satisfaction (quality of food and service were positive, ambience was negative; mean = 7.1), middle-low satisfaction (quality of food and service were negative, ambience was positive; mean = 3.4), and low satisfaction (all attributes were negative; mean = 1.4).<sup>1</sup>

**TABLE 1**  
**Means of the Average Quantity of the Restaurant Visit**

Scenario	Attributes			Initial Price 10.00	Magnitude of the Price Increase <sup>a</sup> (New Price)		
	Quality of Food	Ambience	Service		0.25	0.75	1.50
					(10.25)	(10.75)	(11.50)
1	–	–	–	2.35	2.20	1.45	0.90
2	–	+	–	3.15	3.00	2.00	1.25
3	+	–	+	6.00	5.95	5.05	3.60
4	+	+	+	10.05	10.05	9.75	8.50

NOTE: + = attribute positive; – = attribute negative.  
a. Prices in Euro.

The previous study served as a manipulation check. The use of a previous study as a manipulation check is usually adopted when it is difficult to obtain a manipulation check within the main study (Perdue and Summers 1986). This is an issue in the current (main) study because the price increase itself might affect satisfaction. Thus, measuring customer satisfaction *after* the price increase would not be a valid measure of customer satisfaction prior to the price increase. Moreover, measuring customer satisfaction *before* the price increase opens the door for potential demand effects. However, results for the initial price indicated that the rank order of the repurchase intention means exactly mirrors the characteristics of the satisfaction profiles in the expected way (i.e., the intention ratings for the four scenarios were in the expected order from the lowest to the highest level).

#### Sample Design and Experimental Procedure

The sample consisted of 80 students (20 students for each satisfaction condition) from a variety of majors at a major German university who received a monetary compensation at the end of the experiment. The experiment was conducted in a controlled group setting with 8 to 16 participants per session. In the experiment, participants evaluated written satisfaction scenarios set in a restaurant context. The scenario technique is widely used in experimental research and has been applied in recent experimental research on customer satisfaction (Smith et al. 1999) and pricing (Campbell 1999).

In terms of procedure, participants were first given a brief introduction to the study that included the description of the Italian restaurant. Participants then read the customer satisfaction scenario that referred to a past experience with the restaurant (first visit) and responded to the repurchase intention measures. They first indicated their repurchase intention for the initial price. Then, they were asked to assume that the price was increased during a return visit. Specifically, they were told that the price is now X, where X is one of the three price increase levels mentioned earlier. The three new price levels were €10.25, €10.75, and €11.50. No motives for the price increase were given. For each of the three price increases, they indicated their repurchase intentions. It is important

to note that all three price increases occurred in reference to the initial price (not in reference to the previous price increase). The questionnaire concluded with some general questions about realism and about their knowledge of the purpose of the study to assess potential demand effects. These questions did not reveal any problems in this regard. For example, participants found it easy to imagine themselves having this restaurant experience ( $M = 1.8$ ), and the scenario was easy to understand ( $M = 1.3$ ). Italian food was strongly liked by the sample ( $M = 1.9$ ). All items were measured on a 7-point Likert-type scale (1 = *strongly agree*, 7 = *strongly disagree*).

#### Measurement of Dependent Variable

For Study 1, the key dependent variable was repurchase intention, which was measured in terms of how often the participant would visit the restaurant in the next year. Quantity measures are commonly used in the context of price changes, especially in studies that focus on economic responses to price changes (i.e., Krishnamurthi and Raj 1988, 1991). The repurchase intention measure was obtained for the initial price (€10) and then for the three levels of price increases. Table 1 shows the means for the average quantity of the restaurant visit for each price level.

In addition, several variables were collected as possible covariates (restaurant patronage, preference for Italian food, etc.). Analyses indicate that none of these variables had any effects as covariates, and they were therefore dropped from further analysis.

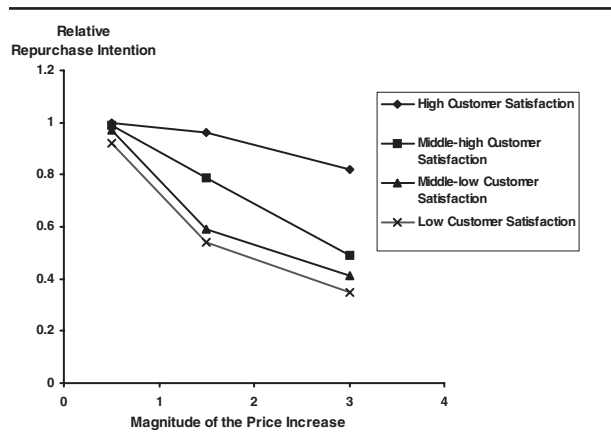
#### Results

The repurchase intention measures were standardized by calculating the ratio of the repurchase intention of the actual price to the repurchase intention of the initial price (relative repurchase intention).<sup>2</sup> The data were then analyzed using a  $3 \times 4$  ANOVA (with price increase levels as the repeated measure).

Results revealed two main effects. First, there was a significant main effect for the magnitude of the price increase. As shown in Table 1, repurchase intentions decreased as the magnitude of the price levels increased,  $F(2, 140) = 91.6, p < .001$ . There was also a significant



**FIGURE 1**  
**Study 1: Means of Relative Repurchase Intention by Experimental Condition**



**TABLE 2**  
**Study 1: Price Elasticities by Level of Customer Satisfaction and Magnitude of the Price Increase**

Customer Satisfaction	Magnitude of the Price Increase <sup>a</sup>		
	10.25	10.75	11.50
Low	-3.11	-6.10	-4.36
Middle-low	-1.13	-5.50	-3.93
Middle-high	-0.53	-2.74	-3.42
High	0.00	-0.54	-1.22

a. In Euro; indicated is the new price.

main effect for customer satisfaction (i.e., repurchase intentions increased as satisfaction increased,  $F(3, 70) = 8.1, p < .001$ ).

A test of Hypothesis 1 focuses on the interaction between price increase magnitude and customer satisfaction. Results indicated that this interaction was significant,  $F(6, 140) = 5.0, p < .001$ , thereby supporting Hypothesis 1. The nature of this relationship is shown in Figure 1 where it can be seen that the negative relationship between the magnitude of a price increase and repurchase intention is weaker for satisfied and stronger for dissatisfied customers.

Furthermore, these data provide a basis for calculating price elasticity, which is a core concept in the economic pricing literature. Thus far, it has only been assumed that customer satisfaction affects price elasticity (Fornell 1992); however, to the best of our knowledge, this has not been formally empirically tested. We calculated the elasticities first on the individual level and then aggregated them.<sup>3</sup> The results of an ANOVA with customer satisfaction as the independent variable and price elasticity as the dependent variable reveal significant main effects when the price is increased by 7.5%,  $F(3, 70) = 6.53, p < .01$ , and by 15%,  $F(3, 70) = 8.41, p < .001$ . There is no significant

main effect for a price increase by 2.5%,  $F(3, 70) = 1.14, p = .340$ . However, the rank order of the price elasticities is in the expected direction (see Table 2). It is important to note that all three price increases occurred in reference to the initial price. Thus, the data provide support for the assumption that higher customer satisfaction is associated with lower price elasticities.

The price elasticity data in Table 2 also provide interesting observations on *how much* customer satisfaction attenuates the impact of a price increase. First, with a small price increase, the change in price elasticity is three times as high as the relative price increase at low levels of satisfaction. Second, in comparing low versus high satisfaction in the moderate price increase condition, there is a huge difference between these two conditions to a factor of 12. Third, the magnitude of the difference between high and low levels of satisfaction gets smaller as the price increase gets larger. Finally, for a minor price increase, the absolute value of the elasticity is below 1, which indicates that the relative decrease in demand is smaller than the relative increase in price.

Thus, in summary, Study 1 demonstrates that the magnitude of a price increases does have an effect on the level of repurchase intentions and that customer satisfaction can moderate this relationship. Specifically, customer satisfaction weakens the negative reaction that customers have to a price increase. In addition, satisfaction has a negative impact on price elasticities (the higher the satisfaction, the lower the price elasticity). These findings deepen our understanding of how customer satisfaction can affect profitability. In particular, the implication is that it may be easier for companies to raise prices when customer satisfaction is high.

**STUDY 2—PERCEIVED MOTIVE FAIRNESS AND CUSTOMER SATISFACTION**

Study 1 examined the magnitude of a price increase (an economic variable) as the independent variable. As mentioned earlier, however, reactions to price increases are also driven by important psychological factors such as the perceived (un)fairness of the price change (e.g., Bolton, Warlop, and Alba 2003; Campbell 1999; Etzioni 1988; Kahneman et al. 1986a, 1986b). Perceptions of price unfairness can lead to a variety of important negative outcomes to the firm including consumer boycotts (e.g., Sen et al. 2001), civil actions (Kaufmann, Ortmeier, and Smith 1991), and a lower likelihood of shopping at a firm (Campbell 1999). However, this research has been mostly conducted at the aggregate level, and there has been a lack of sound theory explaining the link between perceived fairness and its consequences.

Furthermore, previous research on perceived price (un)fairness at the individual level has focused on its

antecedents (Bolton et al. 2003; Campbell 1999). For example, according to Bolton et al. (2003), customers tend to perceive that selling prices are higher than the fair price because they are sensitive to past prices, competitor prices, and the cost of goods sold and tend not to adjust for inflation and the full range of vendor costs.

Thus, our examination of perceived motive fairness is focused at the individual level. Furthermore, our study extends previous work in this area (particularly Campbell 1999) by investigating how customer satisfaction may moderate the relationship between perceived motive fairness and repurchase intentions. Thus, in contrast to previous research (Bolton et al. 2003; Campbell 1999), the current study focuses on the *outcomes* rather than on the antecedents of fairness perceptions.

#### **The Direct Effect of Perceived Motive Fairness on Repurchase Intentions**

Campbell (1999) identified a key factor that directly affects the perceived fairness of a price change: the type of motive the company has for raising its prices. When customers infer that the company has a negative motive (i.e., the company is trying to take advantage of, or exploit, customers in one way or another), the price increase is perceived as unfair. On the other hand, when customers infer that the company has some positive motive for the price increase (i.e., the price increase is needed to overcome cost increases, or the company wants to pay its employees more), the increase is seen as more fair (Campbell 1999:188).

To explain the effect of perceived motive fairness on the repurchase intention, we draw on equity theory that focuses on fairness in social exchange (Adams 1965; Homans 1961; Oliver and Swan 1989a, 1989b; Swan and Trawick 1981). In the current context, the concept of fairness involves a judgment of the ratio between outcomes and inputs in an exchange. This theory suggests that parties to an exchange will feel equitably treated if the ratio of their outcomes to inputs is in some sense fair relative to a referent outcome/input ratio (distributive justice). On the other hand, if inequity in the relationship is perceived, customers will be motivated to restore equity into the relationship in some manner.

In applying this principle to pricing, when a person chooses to buy a product, he or she must believe the price is equitable or fair relative to the output (i.e., the quality of the product or service), otherwise the probability of repurchase is lowered (which would be another way to restore equity). The initial price serves as the customer's normative price expectation and serves as key customer input into the exchange.

Initially, a price increase could have a negative impact on the customer's outcome/input ratio because the higher price increases his or her input, while the outcome remains unchanged. However, the fairness judgment depends on

the evaluation of the seller's ratio. Before the price increase, we can simplistically view the seller's outcome as the price demanded, whereas the input would be the costs involved in producing and marketing the product. After the price increase, since the seller's outcome has increased, the customer's judgment of fairness depends on what happens to the seller's input factors. Essentially, there are two possibilities: (1) the customer perceives an increase in the seller's input, or (2) the customer perceives no change or even a decrease in the seller's input.

In the first case, the customer could perceive that there is an increase in the seller's input, either through increased costs to produce the product and/or some positive motive (i.e., the company wants to increase employee salaries). When this occurs, the new seller outcome/input ratio should not change significantly in favor of the seller, and there should only be a minor impact on repurchase intentions. In the second case, customers could perceive either no change or a decrease in the seller's input because of a negative motive (i.e., the company exploits the customer). In this instance, the outcome/input ratio would be perceived as favoring the seller overall. To (re)establish equity, the customer can lower his or her input to a greater degree in a variety of ways (including lowering the repurchase intention) as compared to the situation when the price increase is seen as fair. We therefore propose the following hypothesis:

*Hypothesis 2:* The perceived motive fairness has a positive effect on the repurchase intention after a price increase: if the customer perceives the motive as fair, the repurchase intention will be higher compared to the situation when the customer perceives the motive as unfair.

#### **The Moderating Effect of Customer Satisfaction**

As mentioned earlier, a price increase should be perceived as fair when the *seller's* outcome/input ratio does not change significantly and as unfair when the outcome/input ratio changes significantly in favor of the seller. In a consumption or usage situation, customers focus initially on their own outcome/input ratio. When a price increase occurs, this creates an inequity in the customers' outcome/input ratio (for the same outcome, the input has raised). However, in dealing with this situation, it is proposed that satisfied customers consider both the buyer's and the seller's ratio, while dissatisfied customers focus more on their own outcome/input ratio.

In the case of high satisfaction, a price increase can create a situation of cognitive inconsistency (e.g., a liked product now costs more). Incongruent cognitions can create psychological tension and stress, and people are therefore motivated to reduce this tension by trying to restore cognitive consistency (e.g., Aronson 1992; Elliot and Devine 1994; Sheldon and Kasser 1995). When satisfaction is high, the customer is motivated to reduce cognitive

inconsistency by inferring or searching for additional information about the seller's motives. This information can then be used to adjust the perception of the seller's input/output ratio. In other words, the effect described in Hypothesis 3 is magnified when satisfaction is high.

On the other hand, when satisfaction is low, the price increase creates no cognitive inconsistency, because the customer's ratio and the price increase are in a consistent negative direction. Therefore, there is little motivation to elaborate on the seller's ratio, and repurchase intentions are simply lowered. This leads to the following hypothesis:

*Hypothesis 3:* Customer satisfaction moderates the effect of the perceived motive fairness on the repurchase intention after the price increase: the effect of perceived motive fairness is stronger when customers are satisfied and weaker when customers are dissatisfied.

To test Hypotheses 2 and 3, a second experimental study was conducted.

## Method

### Research Design

Study 2 involved a  $2 \times 2$  between-subjects design. The independent variables were customer satisfaction and the perceived motive fairness of the price increase. Customer satisfaction was manipulated in terms of high versus low satisfaction based on two satisfaction scenarios from Study 1. In the high-satisfaction condition, all three attributes were positive, while in the low-satisfaction condition, all three attributes were negative. Based on the data from a previous study, these conditions are significantly different from one another.

Perceived motive fairness of the price increase was manipulated in terms of two levels (fair and unfair). The fair condition instructions were as follows:

A car dealer who is a friend of yours told you that the owner of the restaurant traded in his only 1-year-old midpriced car at the beginning of this week for a small used Fiat.<sup>4</sup>

Recently, his restaurant increased its prices by 10 percent. As the motive for the price increase, the owner of the restaurant states that he has been forced to do so because of hard cost pressure. He complained especially about increased lease rental charges and payroll costs.

The unfair condition was similar except that the first paragraph contained the following (the second paragraph was identical): "A car dealer who is a friend of yours told you that the owner of the restaurant traded in his only 1-year-old midpriced car at the beginning of this week for a new luxury model Ferrari."

These scenarios were selected based on a pretest in which participants judged the scenarios on three items, which together served as a perceived motive fairness indicator. These items included the following: "Do you believe the owner of the restaurant intends to increase his profit with the price increase?" "Do you think the quoted reasons are plausible for the price increase?" and "Do you believe the price increase serves the owner of the restaurant to his own advantage?" All three items were evaluated on 7-point Likert-type scales (where 1 = *less likely*, 7 = *more likely*) and were summed up across to receive a measure of the perceived motive fairness.<sup>5</sup> Results for the fair and unfair condition were significantly different: participants in the fair condition responded more positively ( $M = 5.3$ ) than participants in the negative condition ( $M = 3.8$ ).

### Sample Design and Experimental Procedure

A completely different set of 80 students from a variety of majors at a major German university served as respondents for the experiment and received a monetary compensation at the end. The experiment was conducted in a controlled group setting with 8 to 16 participants per session.

Upon arrival, the experimenter informed participants about the procedure. Similar to Study 1, a scenario approach was employed. The introductory section contained a description of the restaurant to set up participants' expectations including that for price level, which was judged as fair by a recognized restaurant magazine. Participants first read the customer satisfaction scenario that asked them to imagine their consumption experience on the current visit. This was followed by the perceived motive fairness scenario for the price increase. Participants then responded to the repurchase intention measure. In the last section, participants answered some general questions about the realism of the scenarios and about their knowledge of the purpose of the study. These questions did not reveal any problems in this regard.

### Measurement of Dependent Variables

Repurchase intention was measured in terms of the following item: "Next week, a friend is coming to visit you. Would you consider the restaurant for dinner?" Participants responded on a 7-point Likert-type scale ranging from 1 (*very likely*) to 7 (*very unlikely*). This scale was used because Study 2 examines the impact of a behavioral concept to price increases, and this scale is the common measure in studies of this nature (e.g., Campbell 1999). Also, measuring this construct with a single item has been common in other studies in this area (e.g., Fornell et al. 1996; Mittal and Kamakura 2001). For the subsequent analyses, the item was reverse coded.

### Manipulation Checks

The same three items used in the pretest were provided as a manipulation check for perceived motive fairness evaluations. Similar to Study 1, it was not practical to



**TABLE 3**  
**Study 2: Means and Standard Deviations of the Dependent Measure**

	<i>Customer Satisfaction</i>				<i>Perceived Motive Fairness</i>			
	<i>High</i>		<i>Low</i>		<i>High</i>		<i>Low</i>	
	M	SD	M	SD	M	SD	M	SD
Repurchase intention	5.65	1.25	1.82	0.90	3.97	2.42	3.50	1.97
	<i>High Customer Satisfaction</i>				<i>Low Customer Satisfaction</i>			
	<i>Motive Fairness High</i>		<i>Motive Fairness Low</i>		<i>Motive Fairness High</i>		<i>Motive Fairness Low</i>	
	M	SD	M	SD	M	SD	M	SD
Repurchase intention	6.20	0.83	5.10	1.37	1.75	0.97	1.90	0.85

NOTE: All ratings were on 7-point bipolar scales: 7 = more likely to repurchase, 1 = less likely to repurchase.

measure customer satisfaction because the price increase might affect this variable.

## Results

### Manipulation Checks

To examine the validity of the perceived motive fairness manipulation, a 2 (customer satisfaction)  $\times$  2 (perceived motive fairness) ANOVA was conducted with the measured perceived motive fairness as the dependent variable (summed across the three manipulation check items<sup>6</sup>). The only significant main effect was for perceived motive fairness,  $F(1, 76) = 24.3, p < .001$ . Participants in the fair condition judged the price increase more positively ( $M = 4.0$ ), whereas participants in the unfair condition judged the price increase more negatively ( $M = 2.9$ ). On the basis of these results, we concluded that the perceived motive fairness was successfully manipulated.

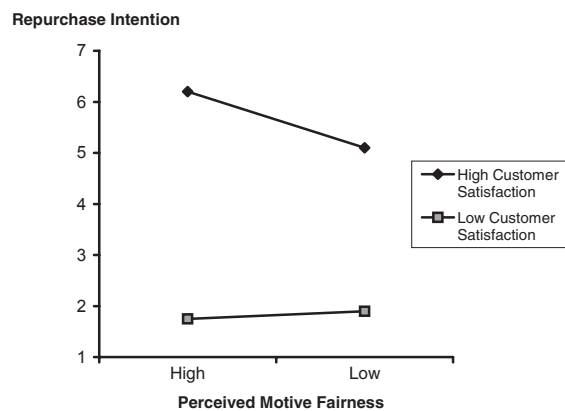
### Hypotheses Testing

Hypotheses 2 and 3 were tested by means of a 2  $\times$  2 ANOVA with intention to repurchase as the dependent variable. Table 3 depicts the means for this analysis.

In terms of the results for repurchase intention, as hypothesized, there was a main effect for perceived motive fairness,  $F(1, 76) = 4.3, p < .05$ . Participants in the negative-motive condition were less likely to repurchase ( $M = 3.5$ ) than participants in the positive-motive condition ( $M = 4.0$ ). Thus, Hypothesis 2 is supported. Note that the main effect for satisfaction was also significant. Furthermore, as shown graphically in Figure 2, there was a significant interaction between customer satisfaction and perceived motive fairness,  $F(1, 76) = 7.4, p < .01$ . As predicted by Hypothesis 3, the effect of perceived motive fairness was stronger when customers were satisfied than when they were dissatisfied.

Thus, the results of Study 2 demonstrate that perceived motive fairness plays a role in determining the repurchase

**FIGURE 2**  
**Study 2: Means of Repurchase Intention by Experimental Condition**



intention after a price increase. Furthermore, customer satisfaction before the price increase appears to moderate this relationship. This finding provides additional insight into how customer satisfaction drives judgments of corporate activities such as pricing. Satisfied customers appear to be more concerned about the motives for the increase, whereas dissatisfied customers seem to just react negatively. Thus, our results provide an interesting mechanism on how to successfully implement price increases, specifically, when possible companies should communicate reasonable motives for the price increase (if they exist). Our results suggest that satisfied customers will react positively to this information.

However, in this study, the motive for the price increase was provided. An interesting question might focus on what types of motives are inferred when this information is not provided. Therefore, in Study 3, we turn to a situation where the type of motive is not communicated or given to the customer. The possibility exists that customers may make different inferences on the motive

depending on their level of customer satisfaction. Thus, we now explore the role of customer satisfaction in influencing the type of motive customers infer and thus the perceived motive fairness.

### STUDY 3—IMPACT OF CUSTOMER SATISFACTION ON THE PERCEIVED MOTIVE FAIRNESS

In Study 2, we examined the impact of perceived motive fairness on repurchase intentions in a context where perceived motive fairness was directly manipulated (i.e., participants were provided with the motive). However, there are also situations where customers are not given a motive for a price increase. Therefore, in Study 3, we investigate whether satisfied customers infer their own fair motives for a price increase (i.e., no motive for the price increase is provided). It is postulated here that customer satisfaction will have an impact on perceived motive fairness. It was mentioned earlier that individuals are strongly motivated to maintain cognitive consistency in their thinking (e.g., Aronson 1992; Elliot and Devine 1994; Sheldon and Kasser 1995). In the current context, it can be argued based on a number of studies that satisfied customers will possess positive cognitions about the product (Oliver 1980, 1993). Therefore, when confronted with a price increase for this product (which is assumed to be a negatively evaluated event), these customers will be more likely to produce positive motives for the price increase in order to maintain cognitive consistency. Perceiving a negative motive for this increase would produce psychological tension, which would then need to be reduced.

Further support for this notion can be drawn from the literature on mood congruency effects. Research shows that mood states influence evaluations, judgments, and behavior in mood-congruent directions: positive mood influences participants' evaluations, expectations, and actions in a positive way (Berkowitz 1987; Forgas and Moylan 1987; Isen and Shalcker 1982; Isen, Shalcker, Clark, and Karp 1978; Veitch and Griffitt 1976; Yinon and Landau 1987), whereas negative mood has an adverse effect on participants' evaluations (Isen and Shalcker 1982; Srull 1983).

Similar to mood, we assume that satisfaction can influence the affect surrounding customers' evaluation of a price increase. Specifically, satisfied customers should be more likely to have positive feelings as input to the evaluation. Since, as mentioned above, a positive mood (or affect) should influence evaluations or expectations in a positive way, higher levels of satisfaction should lead the customer to draw more positive (and therefore fair) cognitions about the motive for the price increase. This leads to the following hypothesis:

*Hypothesis 4:* Customer satisfaction has a positive effect on the perceived motive fairness of the price increase.

To test Hypothesis 4, we conducted a third experimental study.

## Method

### Research Design

Study 3 consisted of a one-factor between-subjects design. The independent variable was customer satisfaction, which was manipulated in a manner similar to the previous two studies. In this study, there were two levels of customer satisfaction based on data from Study 1. In the high-customer-satisfaction scenario, all three attributes were positive. In the other customer satisfaction scenario (which is viewed more as a control group), two attributes were negative, and one (ambience) was positive. Based on the data from a previous study, these conditions are significantly different from one another (high satisfaction mean = 10.8 and low satisfaction mean = 3.4 measured on an 11-point Likert-type scale with 1 = *low satisfaction* and 11 = *high satisfaction*).

### Sample Design and Experimental Procedure

Participants in this study were 174 students of a Marketing class at a major German university. The study was administered as a group in class. Participants first read a brief introduction to the study. Participants then read the satisfaction scenario after which they were presented with the price increase scenario: "Imagine now you are going with your friends to the same restaurant again. Now, you discover that the restaurant has raised its prices by 10 percent."

### Measurement of Dependent Variables

The perceived motive fairness of the price increase was measured in two different ways. First, an overall fairness item asked the following: "How do you judge the fairness of the price increase?"<sup>7</sup> This item was rated on a 7-point Likert-type scale ranging from 1 (*very fair*) to 7 (*very unfair*).

Second, a composite index of motive fairness was developed. Ten different possible motives for the price increase were identified based on a pretest. These included cost increases, increase in demand/popularity, willingness to pay more, to increase profit, to maintain/increase prestige, to maintain/increase quality, to avoid losses, because of satisfaction, greed/exploitation, and competition.

Participants then rated each of these motives in terms of how strongly they were present in the scenario using a constant sum scale (i.e., dividing 100 points among the motives). Furthermore, participants rated each of the motives

in terms of fairness on a 7-point Likert-type scale ranging from 1 (*very fair*) to 7 (*very unfair*). The motives obtained the following means in terms of their perceived motive fairness:<sup>8</sup> cost increases = 2.2, to maintain/increase quality = 2.5, to avoid losses = 2.9, competition = 3.3, willingness to pay more = 3.4, increase in demand/popularity = 4.0, to maintain/increase prestige = 4.1, because of satisfaction = 4.2, to increase profit = 4.3, and greed/exploitation = 6.2. An index of overall perceived motive fairness was then calculated:

$$\text{perceived motive fairness index} = \sum \text{likelihood of the motive} \\ (\text{from the constant sum scale}) \times \text{fairness rating of the motive.}$$

## Results

Hypothesis 4 was tested by means of a MANOVA with the overall fairness item and the composite index of motive fairness as dependent variables. Results indicated a main effect for customer satisfaction for both dependent variables (overall fairness item:  $F(1, 172) = 52.6, p < .001, M = 4.0$  for high satisfaction and 5.3 for low satisfaction; composite index of motive fairness:  $F(1, 172) = 5.6, p < .05, M = 345.2$  vs. 383.8). Thus, satisfied customers judge the price increase as more fair and infer more motives that are perceived as more fair than moderately dissatisfied customers. Hypothesis 4 is therefore supported.

## DISCUSSION

Since most of the research on the impact of pricing strategy has focused on the case of price decreases, more research is needed to examine how customers react to price *increases*. Therefore, the goal of the present article was to examine three major questions: (1) How much does customer satisfaction weaken the negative impact of a price increase on repurchase intentions? (2) Does perceived motive fairness for the price increase have an influence on repurchase intentions after the price increase, and does customer satisfaction moderate this link? and (3) Does customer satisfaction directly affect the level of perceived motive fairness? In response to these questions, we conducted three experimental studies.

The first study showed that the negative effect of the magnitude of a price increase on repurchase intentions is weakened as customer satisfaction increases. In addition, the study revealed that higher levels of customer satisfaction are associated with lower price elasticities and that the difference in elasticities between high and low satisfaction is very large, especially for a moderate price increase (to a factor of 12). This link has been assumed in the literature (Fornell 1992) but has not been tested empirically thus far. In addition, we found that the magnitude of this difference

decreases as the magnitude of the price increase became larger.

The second study confirmed that perceived motive fairness plays a key role in determining repurchase intentions after a price increase. When customers perceive that the motive for the price increase is a fair one, customers have higher repurchase intentions in comparison to customers who perceive a negative motive. Furthermore, customer satisfaction before the price increase appears to moderate this relationship. The highest levels of repurchase intentions are in evidence when a positive motive is perceived and satisfaction is high. Customer satisfaction can also weaken the impact of a negative perceived motive. Moreover, both studies (1 and 2) indicate that customer satisfaction positively affects repurchase intentions after the price increase.

The third study shows that customer satisfaction influences the motive that customers perceive for the price increase. Positive motives are more likely to be inferred when customer satisfaction is high.

## Research Issues

The results of our study have several important implications for theory and research on pricing effects. First, most of the previous research on satisfaction has investigated customer satisfaction in the context of main effects (i.e., either as an independent or dependent variable). Our study expands work in this area by treating customer satisfaction as a moderating variable. The results of our research indicate that satisfaction plays a key moderating role for the relationship between price increases and repurchase intentions. This suggests that satisfaction can have important and interesting effects on customers' reactions to marketing efforts. The possibility therefore exists that satisfaction could play a moderating role in terms of how customers react to a variety of marketing activities besides just price increases. For example, satisfaction might moderate the relationship between advertising and customers' responses to advertising. One would expect customers to exhibit more positive reactions to the company's advertising efforts when their level of satisfaction is high. Similarly, customer reactions to negative stories about a product or company in the news media (i.e., negative PR) might be softened when there are higher levels of satisfaction. Thus, an interesting and fruitful area for future research would be to examine satisfaction's role in these and other contexts. A further interesting topic would be to examine how satisfaction might serve as a moderating variable in the context of price decreases. It might be expected that the effect of the magnitude of a price decrease on repurchase intention is stronger for satisfied than for dissatisfied customers.

Second, our study provides an additional explanation for the positive link between satisfaction and profitability

that has been demonstrated empirically. Previous studies (e.g., Anderson and Sullivan 1993; Bolton and Drew 1991; Fornell 1992; LaBarbera and Mazursky 1983; Oliver 1980; Oliver and Swan 1989a, 1989b; Reichheld and Teal 1996) have found that satisfied customers are more profitable because they are more brand loyal and purchase the product or service more often. Our findings suggest that highly satisfied customers may also be more profitable because the company will have greater success in implementing price increases with these individuals.

Third, we explored the key construct of perceived motive fairness in influencing repurchase intentions. As mentioned previously, most of the previous research on motive fairness has been conducted at the aggregate level (e.g., Kaufmann et al. 1991) or has focused on the antecedents of perceived motive fairness (Campbell 1999). Our study, however, examines this key construct at the individual level and finds that there is a direct link between perceived motive fairness and the intention to repurchase. Most important, when the motive is perceived as fair, customers are more willing to accept a price increase. An important extension of Campbell's (1999) work is that in our study, we investigate the moderating effect of customer satisfaction on the perceived motive fairness–repurchase intention link. In addition, we investigated repurchase intentions as a consequence of customers satisfaction, whereas Campbell (1999) examined the likelihood of shopping at a firm that goes beyond the particular product affected by the price increase.

Given the usefulness of the perceived motive fairness construct in understanding customers' reactions to price increases, an interesting avenue for future research might be to focus on factors that influence the perceived motive fairness of a price increase. In line with an attribution theory explanation, customers are likely to make other key inferences or attributions regarding the motives for a price increase as well. It would be interesting to examine the nature of these inferred motives (both positive and negative), how and when they are generated, and how they influence repurchase intentions and the willingness to recommend. Future research might also examine the effect sizes for these variables within the same study. It would be interesting to compare a loyalty effect relative to a price effect.

Fourth, our findings also indicate that customer satisfaction positively affects the upper level of the region of price acceptance (Kalyanaram and Little 1994; Lichtenstein, Bloch, and Black 1988; Rao and Sieben 1992). As can be seen in the results of Study 1, in the high-satisfaction condition, the repurchase intentions did not drop after the first price increase, whereas at all other satisfaction levels, repurchase intentions were lowered. Therefore, this again stresses the important role that customer satisfaction can play in lessening the negative impact of price increases.

Fifth, pricing is one area of marketing where economic and behavioral constructs are close to one another. Our study tried to illustrate how theory building can be based on the combination of economic and behavioral concepts. In other words, we show how economic concepts can be applied to produce results similar to a psychological approach. Economic theory tends to look more at behavioral constructs, while psychological theories examine constructs that are more judgmental or assessments. However, by combining these two views, we can acquire a richer picture of how customers respond to pricing variables.

A potential limitation of our first and second study could be that the dependent variable (i.e., repurchase intentions) was measured with a single-item. The use of single-item measures may attenuate the estimated relationships. However, such measures have been employed successfully in previous research (e.g., Bolton and Drew 1991; LaBarbera and Mazursky 1983; Mittal, Kumar, and Tsiros 1999; Mittal, Ross, and Baldasare 1998).

In addition, our study suggests several areas that would be fruitful to explore in future research. First, it would be interesting to explore under what circumstances customers are more likely to notice a price increase. Clearly the magnitude of the price increase would be one factor, but there are likely to be other variables that determine whether customers recognize the increase. Second, research could investigate how customers react to various types of company communications about the price increase in order to determine which vehicles are the most effective in disseminating this type of information. Third, our study was conducted in the context of a hypothetical restaurant in order to achieve high internal validity (i.e., to control for prior experience and price). An interesting avenue for future research would be to frame the scenarios in relation to an actual consumption experience so that the influence of factors such as prior satisfaction and patronage behavior can be assessed. It would also be important to investigate the relationships with other samples of customers (i.e., nonstudent) and in different industry contexts.

### Managerial Implications

Several implications follow from the findings of our study. First, we add to the growing evidence regarding the importance of satisfying customers. It has been well documented that customer satisfaction can produce a variety of positive effects on variables such as repurchase intentions, willingness to recommend, and brand loyalty. However, in this study, we document some further positive effects such as a reduction in the negative impact of a price increase, a moderation of the effect of perceived motive fairness on repurchase intentions and willingness to recommend, and a positive impact on the perceived motive fairness of the



price increase. From a managerial perspective, these findings highlight the important role that customer satisfaction plays in the implementation of a price increase. In other words, the higher the level of customer satisfaction, the easier it will be for the firm to execute such an increase. Again, this reinforces the notion that customer satisfaction should be a central focus of a marketing strategy.

Second, our findings have implications for implementing price increases. General wisdom would suggest that in situations where customers are unlikely to notice the price increase, it is best not to formally communicate the price increase to customers because this will draw attention to the increase and possibly create negative reactions (although less so for satisfied customers). However, in the case where price increases have to be communicated, our findings suggest that it may be important to manage the perceived motive fairness of the price increase. If customers see this motive as fair, the reaction to the price increase will be less negative (particularly for satisfied customers). This suggests that when the actual motive for the increase is in general perceived as fair, managers might communicate this motive to customers rather than allowing them to infer their own motive. This could be most effectively accomplished through press releases because of their higher level of credibility relative to other forms of marketing communications. However, due to a lack of control (i.e., the editor makes the decision on whether to publish the information), this avenue may not always be possible. If this is the case, companies might then consider more traditional advertising or perhaps placing information on the company Web site. Nevertheless, disseminating this information would be very important because, as mentioned earlier, negatively perceived motive fairness could lead to a variety of harmful outcomes such as lower sales and profits, customer boycotts, and civil actions.

In addition, companies could take a more proactive approach that would involve building a strong image over time for having "positive" motives toward customers. This could be accomplished through the use of corporate advertising and other types of public relations efforts (e.g., cause-related marketing), which would help to build a strong reputation for the company and lead to a variety of positive benefits. In particular, customers would be more likely to perceive the company as more honest and transparent (i.e., a company you can trust). Thus, when confronted with a price increase, customers may be more likely to automatically infer a positive motive, thereby making it unnecessary to formally communicate the motive for the increase.

Third, our results suggest that it is risky for companies to communicate positive motives for a price increase if, in fact, the motive is not true. In addition to the ethical issues involved, if customers discover the true motive, this can lead to very harmful customer reactions including the

inferring of negative motives as well as damaging the reputation and credibility of the company.

Finally, our results provide guidance as to which motives are perceived as fair and which are perceived as unfair. Motives such as cost increases, maintaining or increasing quality, avoiding losses, or responding to the competition are more likely to be perceived as fair. If these motives underlie the price increase for a company, our results suggest that customers will be more accepting of the price increase. On the other hand, greed or exploitation or increasing profit are more likely to be perceived as negative motives and will make implementing the price increase more difficult. Motives such as customers are willing to pay more, an increase in demand or popularity, to maintain or increase prestige, and because customers are more satisfied are seen as more neutral. Thus, these results provide valuable insights for managers who want to develop strategies for communicating price increases.

## APPENDIX

### Description of the Performance Manipulation for the Different Satisfaction Conditions

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*Customer satisfaction high:* The food is excellent. All ingredients are fresh. The combination of the food is creative, and the preparation is exquisite. The server gives you competent advice about the offered food and beverages. The period of time between the courses is just right. The service is very friendly and courteous the whole evening. The interior design is neat and elegant. The noise level is low, and you are able to talk in peace. The temperature is pleasant.

*Customer satisfaction middle-high:* The interior design is simple. The noise level is high, and it is sometimes quite turbulent. It is too cool in the restaurant, that is why you are freezing. The food is excellent. All ingredients are fresh. The combination of the food is creative, and the preparation is exquisite. The server gives you competent advice about the offered food and beverages. The period of time between the courses is just right. The service is very friendly and courteous the whole evening.

*Customer satisfaction middle-low:* The period of time between the courses is too long. The service is a little bit rude the whole evening. Moreover, the server can give you merely insufficient advice about the offered food and beverages. The interior design is neat and elegant. The noise level is low, and you are able to talk in peace. The temperature is pleasant. Several ingredients are not that fresh. The combination of the food/dishes is interesting, but some of them are too spicy. The food's quality is medium.

*Customer satisfaction low:* Several ingredients are not that fresh. The combination of the food/dishes is interesting, but some of them are too spicy. The food's quality is medium. The interior design is simple. The noise level is high, and it is sometimes quite turbulent. It is too cool in the restaurant, that is why you are freezing. The period of time between the courses is too long. The service is a little bit rude the whole evening. Moreover, the service can give you merely insufficient advice about the offered food and beverages.

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## NOTES

1. See the appendix for a detailed description of the performance manipulation for the different satisfaction conditions.
2. One participant in the second highest satisfaction condition (only ambience is negative) and 5 participants in the lowest satisfaction condition (all attributes are negative) indicated an initial repurchase intention of zero. Thus, the standardized repurchase intention could not be calculated for these participants. These data were dropped from further analysis.
3. A second approach to calculate elasticities is to estimate the elasticities on the basis of the aggregated data. Both estimation approaches lead to the same results. However, we report the results for the first approach since this has the advantage for further inference statistical analysis.
4. In Europe this would be considered a low-priced car.
5. The first and third item were reverse coded.
6. The first and third item were reverse coded.
7. It is important to note that in Study 2, we demonstrated that dissatisfied customers are less likely to infer motives for the price increase when making evaluations in a more natural manner. However, in Study 3, we explicitly ask participants to think about these motives in order to enable comparisons with the high-satisfaction condition.
8. The motives are listed in a rank order, beginning with the motive with the highest perceived fairness.

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