In what condition is a price increase perceived as fair? an empirical investigation in the cable car industry

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Bieger, Thomas; Engeler, Isabelle; and Laesser, Christian: In what condition is a price increase perceived as fair? an empirical investigation in the cable car industry 2010, 1-12.  

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Keywords
condition, price, increase, perceived, fair, empirical, investigation, cable, car, industry

Disciplines
Business | Social and Behavioral Sciences

Publication Details
Bieger, T., Engeler, I. & Laesser, C. (2010). In what condition is a price increase perceived as fair? an empirical investigation in the cable car industry. 20th Annual CAUTHE 2010 Conference (pp. 1-12). Hobart, Tasmania: School of Management, University of Tasmania.

This conference paper is available at Research Online: https://ro.uow.edu.au/commpapers/1812
In what condition is a price increase perceived as fair? An empirical investigation in the cable car industry.

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Abstract

This paper investigates the concept of customers' perceived price fairness in the context of different price increase conditions. Several tourism service industries seem reluctant to systematically vary or occasionally rise prices, mostly because of potential negative consumer responses. Previous studies in behavioral pricing confirm that a price increase may be perceived as highly unfair and, with this, may lead to negative consequences for the firm. However, there is some evidence that not all price increase events are perceived equally and that consumers' fairness perception depends on the situational conditions of the respective price event. Drawing on the principle of dual entitlement and attribution theory, the results of a standardized survey with 1530 cable car customers in Switzerland reveal that cost-based reasons seem to legitimate a price increase, rather than excess demand conditions. Still, within cost conditions, an increase in internally controllable costs is perceived as a less fair reason for raising prices as opposed to an exogenously caused and uncontrollable cost increase. Interestingly, increasing prices without any communicated reason is perceived as the most unfair condition, indicating the crucial role of price communication.

Key words: price increase, perceived price fairness, cable car industry
1. Introduction

Pricing is considered among the most powerful marketing instruments and profit drivers (Diller, 2000). Within the 'four Ps' of the marketing mix, pricing is the one element that directly generates revenue, and thus is of strategic importance to firms (Campbell, 1999b; Vaidyanathan & Aggarwal, 2003). However, in some tourism industries such as transportation or hospitality, price management is poorly researched (Oh, 2003; Parsa & Njite, 2008) and seldom professionally implemented (Fasciati, 2009; Kimes & Wirtz, 2003).

Many tourism industries are challenged by typical characteristics of services such as relatively fix and perishable capacity and high fluctuations in demand (e.g., across the day, week or season) (Bieger, 2006; 2007). Therefore, the service literature considers demand-based flexible price systems as a valuable approach to optimize earnings and better utilize capacity (Bieger, Beritelli, & Weinert, 2005; Desiraju & Shugan, 1999; Voss, Parasuraman, & Grewal, 1998). Such flexible pricing systems have been successfully implemented, for example, in the airline or car rental industry (e.g., Kimes & Wirtz, 2003). Nevertheless, other tourism industries such as the cable car, railway or restaurant industry, still apply rather static pricing systems. They seem reluctant to vary or even occasionally increase prices because they are concerned that consumers might consider this as unfair and react in a price elastic way which in turn would result in financial drawbacks (e.g., Fasciati, 2009; Kimes & Wirtz, 2003; Rotemberg, 2008). In the case of the Swiss cable car industry for example, even small price increases of 2 to 5 percent which are typically realized at the beginning of a new winter season to compensate for the continuous infrastructural investments, regularly provoke negative media coverage and set the industry reputation at risk.

There is extensive evidence in behavioral pricing research which indicates that in some instances a price increase may be perceived as highly unfair (e.g., Campbell, 1999a; 2007). Moreover, unfair pricing is supposed to produce negative consumer reactions such as complaining, resistance, switching, spreading negative word-of-mouth, and may even lead to revenge actions against the supplier (see e.g., Campbell, 1999a; 1999b; Kahneman, Knetsch, & Thaler, 1986a; Dickson & Kalapurakal, 1994; Xia, Monroe, & Cox, 2004). However, a price increase is not inevitably bound to elicit strong unfairness perceptions. A number of studies indicate that it depends on the situational conditions of the respective price increase event as for example the consumers' inference about the reference profit of the seller (Kahneman, Knetsch, & Thaler, 1986b) or their attributions about the seller's motives (e.g., Campbell, 1999a) as well as the locus and controllability of the price increase event (e.g., Vaidyanathan & Aggarwal, 2003). Therefore, this paper aims to empirically investigate in what situational conditions customers perceive a price increase as more or less fair. For this, it draws on the principle of dual entitlement and attribution theory to develop hypotheses on why these differences in fairness perception occur. Therewith, the study draws on previous works of Kahneman et al. (1986b) and Vaidyanathan and Aggarwal (2003).

Perceived price fairness is a highly relevant marketing issue for firms. It has been found to influence willingness to purchase (Maxwell, 2002), customer satisfaction (Herrmann,
Wricke, & Huber, 2000; Herrmann, Xia, Monroe, & Huber, 2007), and is claimed to influence loyalty, and hence long-term profitability (Kimes & Wirtz, 2003; Maxwell, 2002; 2005). Overall, this study contributes to a better understanding of the mechanisms of consumers' fairness perception of price increase events and to the role of situational boundary conditions in an industry environment of relatively static price systems, such as with the Swiss cable car industry. Gaining such knowledge is particularly relevant, as high capital intensity as well as homogeneity and thus comparability of prices are also predominant characteristics of the Swiss cable car industry.

2. Literature review

Several definitions for perceived price fairness exist in behavioral pricing research (see for example, Bolton, Warlop, & Alba, 2003; Campbell, 2007; Xia et al., 2004; for an overview, see Friesen, 2008). This paper builds on the contribution of Xia et al. (2004), which incorporated previous theoretical and empirical findings in this field. They define price fairness as “a consumer's assessment and associated emotions of whether the difference (or lack of difference) between a seller’s price and the price of a comparative other party is reasonable, acceptable, or justifiable” (Xia et al., 2004, p. 3).

Various conceptualizations and theories have been developed and adapted to explain the concept and mechanisms of perceived price fairness (Xia et al., 2004). Referring to the concept of reference price/transaction, price fairness judgments involve a comparison of a price or pricing procedure and a pertinent reference price (also considered as fair/just price) or reference transaction (Friesen, 2008; Kahneman et al., 1986b; Kimes & Wirtz, 2002; Siems, 2003; Xia et al., 2004). Traditional research on fairness has mainly focussed on the customer–supplier relationship (Martins & Monroe, 1994). Hence, the principle of dual entitlement (Kahneman et al., 1986b) states that in conducting fairness judgments, customers believe themselves to be entitled to a reference price, and the supplier as entitled to a reference profit (Bolton et al., 2003). Kahneman et al. (1986b) found empirical evidence that a price increase resulting from an increase in costs is perceived as fair, but not when the price increase occurs because of an increase in market power, like for example, in the case of excess demand. Thus, asking a higher price for peak demand periods (i.e., peak load pricing) without increasing the perceived value for the customer may elicit unfairness perceptions, as could reducing the value for the customer (e.g., through restrictions such as refund penalties) without a substantial price reduction (Kimes & Wirtz, 2002; 2003).

The principle of dual entitlement provides preliminary indications on how and why different situational conditions may lead to different fairness perceptions of a particular price increase event. The following hypotheses are put forward:

H1: A price increase based on an increase in a firm's cost is perceived as more fair than a price increase due to excess demand.

H2: A price increase indicating an increase in customers' perceived value is perceived as more fair than a price increase with no indication on an augmented perceived value.
Still, not all price increase events caused by a raise in a firm's costs seems to be considered as equally fair (see e.g., Vaidyanathan & Aggarwal, 2003). Building on the attribution theory it may depend on customers' causal inference (Vaidyanathan & Aggarwal, 2003; Xia et al., 2004). Attribution theory holds that individuals tend to make causal inferences to determine why an event occurred and that these attributions influence their subsequent responses (Folkes, 1984; Vaidyanathan & Aggarwal, 2003). According to Weiner (1985; 2000) attributions take three dimensions: (1) Locus (i.e., cause resides internal or external of the actor); (2) controllability (i.e., controllable or uncontrollable cause); (3) stability (i.e., stable or instable cause). Previous findings in price fairness research confirm that perceived price unfairness following a price increase depends on the consumers' inferred motive of the seller (Campbell, 1999a; 1999b; 2007). Moreover, perceived price fairness has been found to be higher in case the price increase is attributed to external, circumstance-caused aspects that are beyond volitional control of the seller as opposed to internal factors under the sellers' control (Vaidyanathan & Aggarwal, 2003). If firms provide no indications on the reason behind a price increase, the literature proposes that customers are inclined to make their own inferences (Maxwell, 2002; Xia et al., 2004). Showing a self-serving bias, individuals tend to attribute a negative price event to the seller and to infer negative motives (Campbell, 1999b; Xia et al., 2004).

Overall, the implications from attribution theory set contextual boundary conditions to the more general rule of the principal of dual entitlement (Vaidyanathan & Aggarwal, 2003). It pinpoints what kind of cost conditions might legitimate a price increase. The following hypotheses are put forward:

**H3:** A price increase based on an external and uncontrollable cost-based reason is perceived as more fair than a price increase due to internal and controllable cost-based reasons.

**H4:** A price increase with a reason provided is perceived as more fair than a price increase without a reason, even if the reason provided is unfavourable for the firm.

### 3. Method

This section provides an outline of the empirical study to test the preliminary hypotheses 1 to 4.

**Unit of analysis.** The aim of the empirical study was to analyze consumers' fairness perception of different types of price increase events in an environment of long-standing, relatively static pricing systems. Therefore, we considered cable car customers in Switzerland as a suitable unit of analysis. In Switzerland, the pricing policy of cable car industries is rather static and can be conceived as a crucial management aspect. In the last few years, the occasional and minor price increases at the beginning of a new winter season have caused very much controversial media coverage for cable car companies. As a result, they largely hesitate to vary or increase prices in order to prevent negative consumer responses and to protect their reputation.
**Data collection.** To test the hypotheses we conducted a standardized self-administered survey with cable car customers. Seven Swiss cable car companies participated in the project and have been advised to systematically select respondents. On 18 alternating days during January to March 2009 (i.e., during Northern winter season) one customer out of twenty was addressed and asked to participate in the survey. The respondents received a free day pass of the respective cable car company to compensate for their participation.

**Questionnaire and items.** The questionnaire was part of a larger study on consumers' price perception and satisfaction related to the particular cable car company. The respective question on the fairness perception of different price increase conditions was put at the end of this questionnaire. In order to increase the generalizability of the results we first told the respondents that we want them to mentally leave the case of the cable car industry and to more generally assume that a company considers to increase prices. Then, they had been asked to rate the fairness perception of a list of potential situational conditions (items) of a price increase.

- Hypothesis 1 was operationalized in the two general reasons for a price increase: *increase in demand* and *increase in costs*.
- Hypothesis 2 was measured by two most similar items with just the small difference that one implies a direct increase in perceived customer value (i.e., *increase in quality*) and the other one only indirectly affects customer value (i.e., *implementation of quality management program* (e.g., ISO)).
- Hypothesis 3 and 4: To represent an external and uncontrollable cost event the condition *increased security requirements* (i.e., a regulatory measure) was used. Regarding a potential internal and controllable cost event *increased marketing expenditures* was given as the reason for the price increase. The no-reason-condition was termed *no reasons provided*.

**Sampling.** From an overall of 4,980 questionnaires distributed for the overall study 1,530 were returned. The usable sample for the hypotheses testing consists of 1420 to 1470 observations.

**Measures.** Perceived price fairness of these seven conditions was measured with a single-item five-point Likert-scale ranging from 2 (very fair) to -2 (very unfair).

**Data analysis.** To test the hypotheses stated above, we performed analyses of variance (ANOVA) including F-tests and eta-coefficients. The calculations were conducted on SPSS 17.0.

**Data treatment.** To investigate the hypotheses, the data needed to be treated as follows:

- Hypotheses 1 and 2: As each respondent rated the fairness of two price increase conditions, hypotheses 1 and 2 were tested on a basis of two observations per person or 3060 observations in total (1530*2).
Hypothesis 3/4: As each respondent rated the fairness of three price increase conditions, hypotheses 3/4 was tested on a basis of three observations per person or 4590 observations in total (1530*3).

Hence, this data treatment used to test the hypotheses (cf. Section 4) inflated the amount of observations. As the likelihood of revealing significant mean differences increases with a high amount of observations (Backhaus, Erichson, Plinke, & Weiber, 2005), a random sample of 50% (for Hypothesis 1 and 2) or 33% (for Hypothesis 3/4) was drawn and another ANOVA conducted as control test (in addition to the regular ANOVAs presented in Section 4). The results of these three control tests have reassured the significance of the findings in Section 4 at the p<0.001 level.

4. Results and discussion

This section discusses the results of the hypotheses tests.

**Hypothesis 1**: confirmed. The ANOVA shows a significant mean difference indicating that a price increase based on an increase in costs is perceived as more fair than increasing prices due to an increase in demand (cf. Table 1). The corresponding eta-coefficients denote a relatively strong association between these different pricing conditions and the fairness perception. However, and according to Levene’s test, the homogeneity of variance within the groups compared is violated. Due to the high level of significance (p<0.001), this violation is not problematic (Bühl & Zöfel, 2005), even more so because the ANOVA and the F-test prove to be relatively robust against that shortcoming (Hair, Black, Babin, Anderson, & Tatham, 2006; Herrmann & Seilheimer, 2000).

<table>
<thead>
<tr>
<th>Fairness Perception and Type of Price Increase Condition</th>
<th>increase in demand (n=1469)</th>
<th>increase in costs (n=1469)</th>
<th>F-test</th>
<th>Eta-coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>STD</td>
<td>Mean</td>
<td>STD</td>
<td>F</td>
</tr>
<tr>
<td>Fairness of types of conditions</td>
<td>-.79</td>
<td>1.019</td>
<td>.71</td>
<td>.761</td>
</tr>
</tbody>
</table>

^a: H_o of homogeneity of variance is significantly rejected using Levene’s test (p<0.05) (that is, precondition not met).

**Hypothesis 2**: confirmed. The results reveal a significant mean difference between the two items increase in quality and implementation of quality management program (e.g., ISO) (cf. Table 2). Thus, a price increase event that indicates an augmented customer value, like an increase in quality is perceived as more fair than a price increase event that is not bound to lead to an increase in customer’s perceived value, like the mere implementation of a
quality management program. The corresponding eta-coefficients indicate a relatively strong association between these different pricing conditions and the fairness perception.

Table 2: Hypothesis test 2

<table>
<thead>
<tr>
<th>Fairness Perception and Type of Price Increase Condition</th>
<th>increase in quality (n=1468)</th>
<th>implementation of quality management program (e.g., ISO) (n=1470)</th>
<th>F-test</th>
<th>Eta-coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness of types of conditions&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.86</td>
<td>-.32</td>
<td>1309.00</td>
<td>.555</td>
</tr>
<tr>
<td>Mean</td>
<td>STD</td>
<td>Mean</td>
<td>STD</td>
<td>Sig.</td>
</tr>
<tr>
<td>-------</td>
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<td>------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>.713</td>
<td>.32</td>
<td>1.026</td>
<td>.000</td>
<td>.555</td>
</tr>
</tbody>
</table>

<sup>a</sup>: H<sub>0</sub> of homogeneity of variance is significantly rejected using Levene’s test (p<0.05) (that is, precondition not met).

**Hypothesis 3 and 4**: both confirmed. The results corroborate hypotheses 3 that not all cost-based price increase conditions are considered equally legitimate. A price increase due to internally controllable costs, like *increasing marketing expenditures*, is perceived significantly less fair than augmented prices resulting from externally uncontrollable costs, like the additional costs of *increased security requirements* (cf. Table 3). Moreover, the data confirms that providing no reason is perceived as the least fair condition (mean value of -1.67) compared to all other conditions tested (also with regard to the conditions considered in hypotheses test 1 and 2). More specifically, leaving customers without an attribution for the price increase is perceived significantly less fair than the other two attribution conditions. The corresponding eta-coefficients point to a strong association between the different pricing conditions and the fairness perception.
Table 3: Hypothesis test 3 and 4

<table>
<thead>
<tr>
<th>Fairness Perception and Type of Price Increase Condition</th>
<th>increased security requirements (external) (n=1467)</th>
<th>increased marketing expenditure (internal) (n=1438)</th>
<th>no reasons provided (n=1420)</th>
<th>F-test</th>
<th>Eta-coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness of types of conditions(^a)</td>
<td>.62</td>
<td>.819</td>
<td>-.81</td>
<td>.884</td>
<td>-1.67</td>
</tr>
</tbody>
</table>

\(^a\): H\(_0\) of homogeneity of variance is significantly rejected using Levene’s test (\(p<0.05\)) (that is, precondition not met).

5. Implications and conclusions

Overall, the results indicate that the perceived fairness of a price increase event is context specific and that marketers should be careful with occasional price increase events or with applying flexible price systems that systematically increase prices. More specifically, our research has provided evidence, that a price increase due to an increase in costs is perceived as fairer than raising prices because of an increase in demand. However, not all cost-based price increase conditions seem to be considered as equally fair: an increase in prices as the result of higher exogenous costs (such as regulations, and other) or costs associated to providing higher customer value, are generally perceived as fairer than a price increase because of higher internal costs or costs which are not targeted at increasing values for the customer.

For tourism marketers, these findings imply that flexible price systems or price increase events are perceived as most legitimate if the higher price reflects an increased value for the customer or if it mirrors an external uncontrollable price increase. Interestingly, among all conditions tested in this study, a price increase event without any reason provided to the customer is perceived as the most unfair condition. This indicates the crucial role of price communication.

Turning to the case of the cable car industry, the results yield several practical implications. First, consumers might accept a price increase, but only in the case that it has been caused by an exogenously driven cost increase or if the price increase is based on an increase in customer value. Still, given that most price increase events to date meet the latter precondition (i.e., investments in artificial snow production, correction of slopes to smoothen the ski run, investment in the restaurant and sanitary facilities etc.) and, nevertheless, produce negative media coverage, price communication needs to be enhanced. Thus, as a second implication, the investments that have been undertaken to
increase the value for the customer need to be proactively materialized and stressed via marketing communication (‘do good and talk about it’). No action, in the sense of reactively hiding a price increase event, seems to be the worst action.

To sum up, the key for a fair pricing policy is not to keep the prices static but to account for consumers fairness considerations (see also Xia et al., 2004). Thus, it is important for tourism marketers to understand the mechanisms of customers' fairness perception to anticipate the legitimacy of such pricing decisions.

6. Limitations and future research

This study bears some limitations. A first limitation concerns its generalizability. The empirical part builds on the case of the cable car industry. Thus, these findings particularly apply to industries that have traditionally employed a rather static pricing policy. Second, the study analyses a limited set of price increase conditions. This, because the main aim of the study was to test the theoretical hypotheses rather than providing a comprehensive picture of different practically relevant price increase events. Nevertheless, such a study would be an interesting and worthwhile avenue for further research. Third, the price increase that the respondents had to consider was not quantified in absolute or percentage terms. It was framed in a neutral way so that any price increase would need to be considered. As a valuable extension, future research could focus on differences in fairness perception by manipulating the level of the price increase across different experimental conditions. Fourth, the survey question did not control for competitors' pricing actions (i.e., whether just the specific business considered in the question increases its price ceteris paribus or whether other businesses in the industry implement an equal price increase or even decrease their prices). The inclusion of competitors' price responses constitutes a vital future research area.

Regarding additional research avenues our results show that future scholarly investigations should analyze the different value components of the cable car service together with the respective willingness to pay for such investments in specific value components.
References


**Acknowledgements**

The authors wish to acknowledge the funding support of the innovation promotion agency CTI of the Federal Office for Professional Education and Technology OPET of the Swiss government. This study is a part of a larger study that has been funded by the innovation promotion agency CTI. We further gratefully acknowledge the two anonymous reviewers for their valuable advice about further improvement of this manuscript and in particular about the third and fourth limitation and future research avenue outlined in section 6.