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Perceived unfairness of prices resulting from yield management practices in hotels

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Abstract

This study analyzes the consumer perception of Yield Management (YM) with an example in the hotel sector. Hotels use these practices in order to increase their incomes. However, the dual entitlement theory suggests that customers perceive YM practices as unfair when they are not the result of cost increase or external factors. This study explores four YM practices that might be suitable in the hotel context through an empirical study of the behavior of 1010 customers. The study consists of non-parametric tests to analyze the perception of YM practices and Anova tests to identify relationships between the variables which may explain customer behavior. The results show that the manner of presenting the YM practices to consumers (positive or negative frame) has a considerable influence on their perception. Lastly, loyal customers perceive price changes the YM introduces as more unfavorably. From this point of view, firms can use several managerial levers in the communication of tariff practices and management of loyalty programs to avoid or reduce customers' perception of unfairness.

Keywords: Equity; fair price; perceived unfairness; price sensibility; yield management

1. **Introduction**

Many firms seek to use revenue management techniques to maximize profitability in capacity-constrained situations (Guadix et al., 2010). Yield management (YM) is a tool used to maximize profits with limited available capacity, such as airline seats or hotel rooms. YM manages the capacity to optimize the firm's overall revenue (Mauri 2006). YM is a tactic variable pricing based on understanding, anticipation and desire to influence consumer behavior to maximize the income or profits from a fixed perishable resource. YM involves strategic control of stocks of places for sell and aims to sell to the right customer at the right time and at the right price. The originality of YM is the joint nature of control capacity and pricing discrimination, which are the two strategic levers of revenue management. However, if YM increases profitability, the consequences for the customers are not always positive. During the low season, customers benefit from YM because they can take advantage of rate reductions. However, at other times, customers may perceive YM practices as being unfair when they pay a high price for standard services. The consequences can be dramatic: the customer may not only break off all commercial transactions with the seller but also spread negative information about the seller (Campbell, 1999). Thus, firms need customers to see YM price increases as fair; hence the importance of knowing if firms can obtain a customers' perception of fairness of actually unfavorable YM practices. More precisely:

- Among the practices of YM which disadvantage customers, which ones do customers perceive as unfair?

- Does this perception of unfairness (or fairness) vary with customer profiles (their past experience, price consciousness, etc.) and the characteristics of YM practices?

- Does this perception change according to the presentation of YM practices as gains (discount) or losses (surcharges)?

These questions are of great interest to management strategy. Proving that the level of perceived unfairness depends on customer profiles would enable decision makers to define YM strategies according to customer target groups.

This research aims to understand how pricing strategies influence customer reaction. The following section recalls the different forms of YM, highlighting YM's importance in the hospitality sector. Section three presents various analyses, like the theory of "dual entitlement" (Kahneman et al., 1986a), which refers to the notion of just price evolution. Section four shows an approach based on scenarios to assess customers' perception of each of these practices. The study tests customers' reactions to a positive and a negative presentation of YM practices.

2.   Literature review: Perception of YM practices

The fair price is the price that a customer would be ready to pay (Chandrashekaran & Jagpal, 1994). For a price variation to be fair, the result (the posted price) or the process to make the price must be reasonable and acceptable (Bolton et al., 2003).

2.1.   Theory of "dual entitlement", cost change and fair price

The theory of "dual entitlement" (Kahneman et al., 1986a) holds that consumers believe they have the right to a reasonable price and that the company should receive a reasonable profit. Two hypotheses emerge. First, customers feel that price increase to maintain profit level is fair. In other words, if service cost increases then consumers consider that the fair price will also grow. Second, a price increase in order to raise profits is unfair. The level of perception of unfairness results from a comparison with an expected price that the customer deems as the right price considering the value of goods. Evaluating a posted price' unfairness consists of comparing this price to a regular price, a reference or a standard.

This standard results from a transaction "reference," usually the most recent or the average transaction (the price most frequently paid) or by reference to what other people say they have paid for a similar offer (Kahneman et al., 1986b). After comparison with the internal reference prices the customer then perceives the new price as "cheap" or "expensive" (Monroe & Lee, 1999; Scitovszky, 1944).The customer evaluates if the difference between the price the seller charges and a price the customer uses for comparison is acceptable (Xia et al., 2004). The price comparison is explicit when the customer really does have in mind a price or several prices for comparison: the price another customer has paid, price he or she has paid previously or the price of a competitor. Price comparison is implicit when the customer evaluates the unfairness of the price but cannot compare the price to a price that another seller charges.

In most situations when buyers lack information on benefits or costs (Thaler, 1985) of the provider as in the Hospitality sector, buyers evaluate fairness by comparing their benefit or cost to other buyers who are in an exchange relationship with the same vendor for the same product (Homans, 1961; Martins & Monroe, 1994). In the hotel sector the customer may have difficulties accepting that a room is more expensive for him or her than for another customer, or in comparison to a room booked a few days earlier (Kimes, 1989).

H1: Consumers negatively perceive YM practices.

For setting a price (with rebate or surcharge), customers must be able to understand the reasons behind that price (Kimes & Wirtz, 2002). What can lead to a perception of an unfair price may be both the posted price and the reasons behind this price (Xia et al., 2004). Vaidyanathan and Aggarwal (2003) show that customers can consider a price increase due to cost as unfair if consumers attribute the increase to internal factors the seller can control. Conversely, customers cannot consider price increase not attributable to higher costs as unfair if such increase owes to factors external to the seller. If sellers want to positively influence

consumer perception of the fairness of a price increase, they need to explain the rise by external and uncontrollable causes.

H2: Customers perceive price increases (resulting from a practice of YM) attributable to external and uncontrollable causes as fair.

2.2.   Unfair price and the manner of presenting YM practices as losses

The result in terms of price for the consumer, and the presentation of YM practice by the company modulate the effect of a price change on consumer perception and behavior. While most of previous studies assume a linear relationship between perception of fairness and the difference between the actual price and the internal reference price, several researchers observe asymmetric effects depending on whether the deviation is positive or negative (Kahneman, et al., 1986b; Monroe and Lee, 1999; Scitovszky, 1944; Thaler, 1985).

Kahneman and Tversky (1979) further observed that a person losing $100 will lose more satisfaction than a person will gain satisfaction from a $100 windfall. This means that buyers are more sensitive and more responsive to loss (Monroe & Lee, 1999; Monroe & Martin, 1994; Scitovszky, 1944). A loss will probably appear more prominent than a gain in the mind of the buyer in the purchase decision process, so changes to lower or higher prices have no symmetric effect. Under this principle, tariff rules which present price increases will have a lower acceptance than those showing lower prices. Thus, using the theory of Kahneman et al. (1986a) and their analysis of potential framing biases, this study posits hypothesis 3.

H3: The perception of YM practices by consumers depends on YM's presentation (positive / negative frame).

Customer's sensitivity to price also influences the perception of unfairness. Taking advantage of YM, some consumers are saving on the average price. These consumers, who are particularly price sensitive, find YM to be satisfactory when they book in advance. Conversely, consumers who are less price sensitive and give more importance to access to the service at any time, will probably feel lower irritation toward a discriminating pricing policy which guarantee an access at any time against a price increase. Therefore, the type of room requested and the price agreed characterize each segment of customers. For example, leisure clients will look for cheapest rooms and will book in advance, while business customers, due to a significant time constraint are less sensitive to price and have a preference for room availability at any time.

H4: Business customers perceive YM practices as less unfair than leisure consumers.

Loyalty builds on a relational contract between seller and customer. Loyalty draws on respect of relational norms of solidarity (simply stated as the principle of getting something back for something given), reciprocity (what increases the utility of one party also increases the utility of the other party), communication between partners, and respect for supra contractual standards such as fairness, justice, and ethic. Thus when a customer benefits from a loyalty program, that customer perceives more the unfairness of YM practices.

H5: Loyal consumers perceive price changes resulting from YM as more unfavorable.

3. Method

In the hotel sector, YM generally consists in determining the minimum tariff which the hotel can charge for a stay, taking into account the marginal costs resulting from the production of an additional unit (Mauri, 2006). Controlling demand by a differentiated tariff policy is a common practice in the hotel trade. The hotel industry differentiates its tariffs

according to the season, the date of payment, the length of stay and the time of departure. The temporal frame is central to regulating hotel tariffs. This empirical study tests four scenarios drawing on price variations due to a temporal constraint that involve unfavorable situations for the customer. Prices will vary according to dates or periods. Scenarios 1 and 4 aim at limiting congestion during certain periods thanks to techniques based on time (over the season or for days of the week). To encourage anticipation of reservations or cancellations, the price is higher for a last-minute cancellation and lower for an anticipated reservation. Scenarios 2 and 3 aim at encouraging customer anticipation by using techniques based on the characteristics of the transaction (on the reservation or cancellation).

The sample comprises 1010 hotel customers of varied sex, age and socio-professional categories, who answer a face-to-face questionnaire in May and June 2014 in the hall of 10 hotels in Paris. In the hotel industry, YM mainly concerns hotels with at least 2*, (see description of sample in appendix n°1). The ample comprises a great variety of respondents regarding their usual practice of staying in hotels: type and frequency of hotel stays, category of hotels used, whether they had a loyalty card.

This article applies experimental methods used in behavioral economics, as in Viglia et al. (2016), to examine the impact of Yield Marketing practices. This method of scenario is the initial approach that Kahneman et al. (1986a) adopt for their Dual Entitlement theory. The following four scenarios are under study:

Scenario 1: A hotel offers different prices for the same type of room according to the season. The price of the room during the winter tends to be less expensive than during the summer period. Negative frame: In June, the price of the room is 30% more expensive than in November. Positive frame: In November, the price of the room is 30% cheaper than in June.

Scenario 2: A hotel offers different prices for the same type of room according to the period of reservation. Negative frame: If you reserve your room a few days before the date of your

stay, you pay a 30% surplus on the price. Positive frame: If you reserve your room two months before the date of your stay, you get a 30% discount on the price.

Scenario 3: A hotel imposes charges for a no-show equivalent to the cost of the first night. Negative frame: Any booking cancellation made less than 24 hours in advance involves the payment of the first night. Positive frame: Any booking cancellation made 24 hours before your stay is free.

Scenario 4: A hotel offers different prices for the same type of room according to the days of the week. Negative frame: On Tuesdays and Saturdays, the price of the room is 30% more expensive. Positive frame: On Mondays, Wednesdays, Thursdays, Fridays, and Sundays, the price of the room is 30% cheaper.

A 5-point scale, going from *completely fair* to *completely unfair* measures the perceived unfairness of the price resulting from YM.

To study the role of customer profile this study uses the variables representing:

a) socio-demographic characteristics: sex, age, PCSP

b) customer's past experience: familiarity with the hotels, quality of the hotels used, loyalty card holder

c) customer's motives: category of stay (work/leisure).

Additionally, the customers give the reasons for their choice of score on the unfairness scale.

4.   Results and analyses

4.1.   Unfairness and type of YM practices

The results show that participants perceive scenarios 2, 3, and 4 (on average) as unfair. In contrast, participants perceive scenario 1 as fair (table 1) with an average below 3. To study

the significance of differences in answer between the four scenarios, this study employs

nonparametric tests (Kruskal Wallis and Mann-Whitney, for examples see Baranska, 2012).

Table 1. Level of unfairness perceived in the 4 scenarios for negative presentation

(5-point scale, N = 505)

	Mean	Standard Deviation
Scenario 1	2.43	1.07
Scenario 2	3.79	1.09
Scenario 3	3.24	1.18
Scenario 4	3.91	0.85

In scenario 1, the majority of the respondents seem to accept price variations due to

season. The strong demand during the summer holidays seems to suffice to justify the

increase in price. Thus, customers may perceive the possibility of finding a reservation in a

hotel during peak season as a fair return benefit. In the first scenario, 778 respondents (77.5%

for negative and positive frames) reportedly noticed price differences for the same room in the

same hotel outside periods of high and low attendance. To investigate whether this perception

of YM practice relates to the search for better rates, the study includes a Chi-2 independence

test between the variable measuring research on the room rate and the variable measuring if

the person observes price differences for the same room in the same hotel. The test confirms

the link between the two variables (with a 5% risk). The results fail to support hypothesis H1.

Respondents find that last minute reservation (scenario 2) or cancellation (scenario 3)

and a stay on certain days of week rather than on other days (scenario 4) are not sufficient

reasons to justify a price increase. The unfairness of last minute reservation (scenario 2) may

owe to the increasing use of Internet. Similarly, respondents perceive the fact of paying the

first night in case of booking cancellation within the last 24 hours (scenario 3) as unfair. The

consumer gives less importance to the hotel difficulties to find another customer at the last

minute, than to their own disappointment to pay for a service they are not going to consume. The feeling of unfairness with respect to scenario 4 comes from the impression that the hotel benefits from higher numbers on certain days to increase its tariffs without benefits for the customer in return. Customers tend to accept increase in price owing to a cause the hotel cannot control and that the whole sector experiences (such as season). The results validate the hypothesis H2. Similarly, customers see as unfair a practice that a small number of hotels perform (such as a rise in prices on Tuesdays and Saturdays). Customers also perceive as unfair the increases in price when the hotel still has the possibility of not suffering a penalization (following a last minute reservation or cancellation) because they only benefit the hotel owner. These conclusions are consistent with Dual Entitlement Theory and equity theory. Equity theory (Adams, 1965) highlights that the customer's additional cost must go hand-in-hand with an equivalent advantage (for example, for scenario 1, the customer can benefit from a hotel room despite booking in peak season). This is not the case for scenarios 2, 3 and 4. In these three scenarios the hotel seems to benefit from the situation to increase its profits, without any reason linked to competition and without any benefits for the customer in return.

4.2. *Customer profile and unfairness*

To study the influence of customer profiles on the perception of unfairness with respect to the four scenarios, this study applies nonparametric tests (cf. table 2).

Table 2. Influence of customer profiles on perception of unfairness

		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Socio-professional category	*Gender (MW)*	*Non sig.*	*Non sig.*	*Non sig.*	*Non sig.*
	Age (KW)	*Non sig.*	*Non sig.*	*Non sig.*	*Non sig.*
	Profession (KW)	*Non sig.*	***	***	***
Experience	*Familiarity (KW)*	**	**	*Non sig.*	**
	Hotel quality_ nb of stars (KW)	***	***	***	*
	Loyalty (KW)	**	***	***	***
Motives	*Work/Leisure (MW)*	**	**	*Non sig.*	**
Price sensitivity	*Price researches (MW)*	***	***	***	**
	Price changes (MW)	***	*Non sig.*	*Non sig.*	***

KW: Kruskal Wallis test, *MW* : Mann-Whitney test, *** : Significance at 99%, ** : Significance at 95%, * : Significance at 90%.

Concerning the socio-professional category, the scores of unfairness depend on customer's profession. On average, top executives, middle management, and freelancers find 2, 3, and 4 fairer than other customers do. In parallel, for the four scenarios, the quality of the hotels and the price sensitivity have an influence on the perception of unfairness. Customers staying in the top-of-the-range hotels and not doing any research in particular on the prices of reservations, judge the scenarios as less unfair than other customers do. Concerning sensitivity to the price variations, some differences exist regarding the level of unfairness perception for scenarios 1 and 4. Price variations for the same room unrelated to high or low season reinforce the feeling of unfairness. Customers perceive Scenarios 2 and 3indifferently. Regarding the motives of stay, the results show that customers travelling for business and who regularly stay in hotels perceive the three scenarios 1, 2, and 4 as less unfair than customers travelling for leisure (hypothesis H4 receives partial support). On the other hand, whatever their motivational and familiarity profiles, customers judge as unfair having to pay for a night when cancellation takes place less than 24 hours in advance (scenario 3). The negative scenarios are less unfair for business customers or those who stay in hotels regularly, than for

other customers. Lastly, loyal customers consider the price differences more unfair, even when they may appear justified (as for scenario 1). Thus, hypothesis H5 receives support.

Thus hotels should focus their efforts on customers (the loyal customers and the well-informed) who are the most difficult to convince of YM fairness. However, loyalty programs provide a tool to reduce customer conflict thanks to the attribution of gifts or price reductions.

4.3. *The manner of presenting YM practices and fairness*

The unfairness is always lower for the positive presentation in the four scenarios. To test whether the difference between the positive and negative presentation of price deviation is significant, the study includes a student test of equality. This test is significant for all four scenarios, thus supporting hypothesis H3 (Table 3).

The presentation of price change in the form of loss increases the feeling of unfairness in accordance with Khaneman et al. (1986b). Therefore, hotels can decrease the negative consumer perception of a YM practice by modifying its presentation.

Table 3. Influence of positive or negative presentation on the perception of unfairness

	Mean	STD	Student Test
Scenario n° 1			
Negative Frame	2.43	1.01	
Positive Frame	1.72	1.43	
Total	2.11	1.57	0.007**
Scenario n°2			
Negative Frame	3.79	1.08	
Positive Frame	3.02	1.64	
Total	3.41	1.53	0.011**
Scenario n°3			
Negative Frame	3.24	1.18	
Positive Frame	1.76	1.56	
Total	1.91	1.57	0.027**
Scenario			

n°4			
Negative Frame	3.91	0.83	
Positive Frame	3.65	1.03	
Total	3.78	1.04	0.029**

(** : Significance at 95%)

The study uses ordinal regressions (appendix 2) to identify variables that explain the difference in judgment of an individual between the positive and negative frames of the four scenarios. A Scenariobis variable measures the perception gap between the positive and negative frames in each scenario (1, 2, 3, and 4) (respectively Scenario1bis, Scenario2bis, Scenario3bis, Scenario4bis) taking value 3 if the positive presentation outweighs the negative presentation, value 2 in case of equality, and value 1 if the negative frame seems fairer than the positive frame. The frequency of hotel stays, age (at the 10% risk level) and the fact that the individual has or not a loyalty card (at the 5% risk level) explain the variable Scenario1bis. Younger individuals, who do not have a loyalty card (cartebis = 1) and often use hotel services, are less subject to positive gap between positive and negative frames. The frequency of hotel stays, age and sex of the individual and loyalty (at the 10% risk level) explain the perception gap in the second scenario, scénario2bis . The youngest females, who frequently use hotel services and do not have a loyalty card, are less sensitive to a positive presentation of scenarios.

Age, sex of the individual and loyalty (respectively at the risk level of 5%, 10% and 5%) explain the perception gap in the third scenario. The oldest individual, male, and having a loyalty card will attribute more difference between the positive and negative frames. The positive perception gap in scenario 4 is lower for individual having no loyalty card.

In all cases, loyal customers are more sensitive to different presentation of scenarios. This finding means that customers think they should benefit from preferential tariff. Segmentations criteria (loyalty, age, gender, and frequency) affect the perception of scenarios

1, 2, and 3. The youngest guests, who frequently use hotel services, are female, and do not have a loyalty card, are less sensitive to a positive presentation of scenarios compared to a negative frame.

4.4. Characteristics of YM practices on the perception of unfairness

To analyze the role of YM practices on perception of unfairness, the study focuses on scenario 4, which, on average, has the most negative customer perception. Table 4 shows customers direct answers on the reasons of their response on the unfairness scale.

Table 4. Justification of the perceived unfairness level for scenario 4.
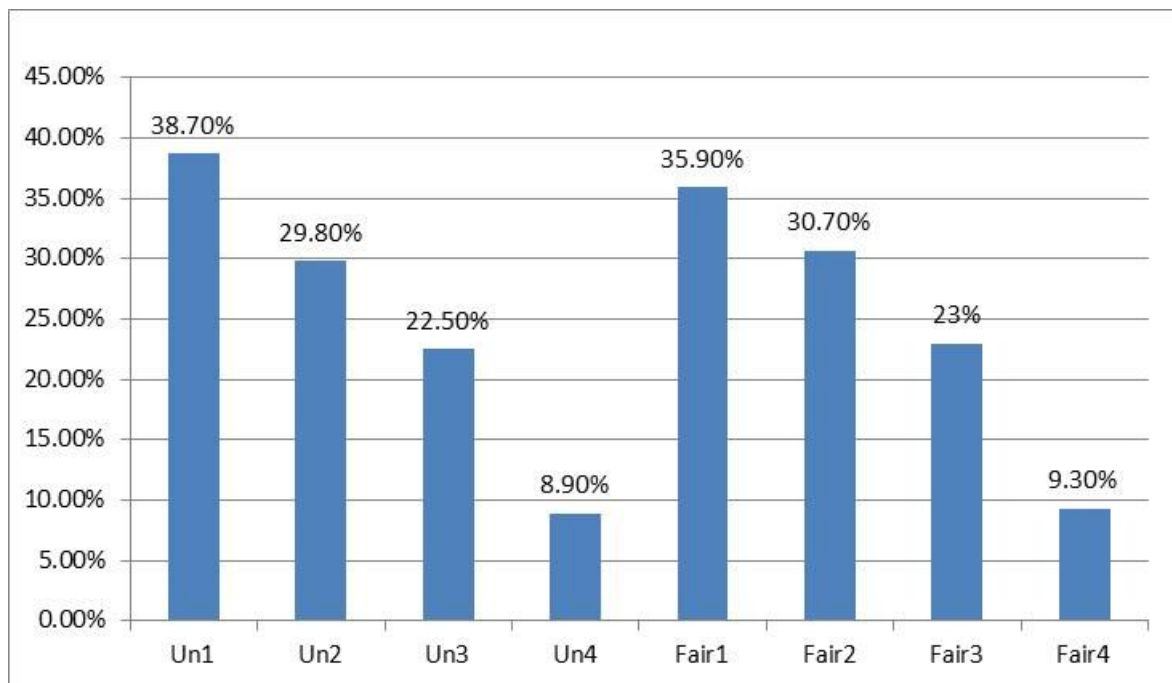
Legend:
Customers perceiving the practice as unfair
Un1: No reason
Un2: Lack of respect
Un3: Not enough information
Un4: Have to respect displayed prices

Customers perceiving the practice as fair
Fair1: Give more opportunities
Fair2: Result of competition
Fair3: YM is used in other sectors
Fair 4: Hotel characteristics

Among customers perceiving the practice as unfair, 38.7% mention the lack of information, 22.5% stipulate that explanation on price variations are not enough. On the other hand, customers perceiving the practice as fair, are able to explain price variations. According to them, variations owe to action from competitors (30.7%), to the fact that variations are a current practice in the sector (23%), or to the hotel services (9.3%).

Perception of equity of costs and benefits is also essential for the customers. 35.9% of customers judging the price variation as fair explain their answer by the possibility of benefiting from better prices for other services. On the other hand, nearly 30% of the customers who perceive unfairness explain their response by a lack of respect toward them. Customers feel hurt because they must pay a higher bill without receiving any additional benefit. This result confirms the importance of highlighting customers' benefits when increasing prices.

Unfair price can be the consequence of a lack of differentiation among services in offer. Nearly 40% of the customers perceiving unfairness state that such unfairness owes to the absence of any justification for the price difference, and 8.9% of them think that the hotel does not respect the prices given for each service.

4.5.   *Influence of the perception of unfairness on the behavior of the customer*

Lastly, regarding customer perception of unfair pricing, a high proportion (40.8%) of the 382 customers perceiving unfairness who have justified their answer will not choose the same hotel in the future. Even if this result is only an intention, the result proves the serious consequences of perception of unfairness. Furthermore, as only 12% of the customers think they would complain to the management, and 8.9% to the receptionist, the hotel could not detect this dissatisfaction and take measures to repair the damage (Table 5).

Table 5. How respondents react on perception of unfair pricing?

	Number	%	Fisher test
Complaint to the receptionist	34	8.9%	0.24*
Disinterest in the hotel	106	27.7%	0.019**
Complaint to the management	46	12.0%	0.14*
No longer choose the hotel	156	40.8%	0.008***
Other	40	10.5%	0.21
Total	382		

***: Significance at 99%, **: Significance at 95%, *: Significance at 90%.

5. Discussion and conclusion

This research demonstrates that firms can practice price variations disadvantageous for the customers, and still obtain a fair customer perception of them. The feeling of fairness exists when the customer thinks that the hotel does not seek to increase its profits, or if these profits also benefit the customer fairly. Hence customers generally accept the scenario of increasing prices during high-season. If seasonal practices represent a financial disadvantage for the customer, he or she still benefits from a reservation during a period of high demand. On the other hand, customers see as unfair the scenarios generating an increase in costs for the customer because of a last minute reservation, a last minute cancellation, or of a reservation on one day of the week rather than another because the justification is not sufficient.

YM practices are more acceptable for customers with high social status (higher than average purchasing power, customers who are less price sensitive), who are travelling for work, or who stay in hotels regularly. Practices of YM are less fair for customers who hold a hotel loyalty card; these customers perceive very badly any price variations for the same room. Therefore, hotels must focus their commercial efforts on loyal customers, who are the most profitable.

Contrary to other customers, the well-informed customers perceive negatively the increases in price owing to seasonal effects. They probably have the impression that a seasonal effect is not the principal explanation. Customers perceive some YM practices as always unfair. Whatever the customer profile studied, customers systematically perceive as

unfair the payment for a night in the event of a last minute cancellation (less than 24 hours in advance). Nevertheless, the analysis of the effects of the characteristics of YM practices shows that firms can apply some solutions to reduce the perception of unfairness. Hotels should give more explanations about the price variations. The customers need to allocate a cause to the price increases. The cause can be the competitive environment, the usual practices of the sector, or the services the hotel provides. In addition, hotels must show how the customer benefits in return. Hotels can improve characteristics of the stay by offering additional services at decreasing prices; the important thing being that the customer receives a benefit judged equivalent to the higher prices. Transparency, reciprocity, and originality are three principles which can contribute to reduce the risks of unfairness perception. This risk is not negligible because such risk can lead to not choosing the hotel in the future. Lastly, the presentation choice of YM practices influences consumer's perception. Presenting YM as a discount reduces the feeling of unfairness. Therefore changing the presentation of a TM practice is possible and useful to decreasing customers' negative perception.

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Appendix n°1

		Number	%
Population			
	Man	526	52,1%
	Woman	484	47,9%
	Total	1010	
Main reason for the stay			
	Business	456	45,1%
	Leisure	554	54,9%
	Both	1010	
Age			
	0-25 years	90	8,9%
	26-35 years	276	27,3%
	36-45 years	296	29,3%
	46-55 years	184	18,2%
	56-65 years	110	10,9%
	Over 65 years	54	5,3%
	Total	1010	
Profession			
	Entrepreneur	50	5,0%
	Freelance	142	14,1%
	Manager	332	32,9%
	Employee	248	24,6%
	Civil Servant	90	8,9%
	Retired people	62	6,1%
	Student	64	6,3%
	Other	22	2,2%
	Total	1010	
Frequency of stays			
	1-2 times/year	122	12,1%
	3-6 times/year	412	40,8%
	7-11 times/year	236	23,4%
	12-18 times/year	122	12,1%
	Over 18 times/year	118	11,7%
	Total	1010	
Sort of Hotel			
	0-1*	24	2,4%
	2*	148	14,7%
	3*	582	57,6%
	4* and more	256	25,3%
	Total	1010	
Hotel loyalty card			
	Without	630	62,4%
	One card	262	25,9%
	Two cards	66	6,5%
	More than 2	52	5,1%
	At least one card	380	37,6%

Appendix n°2

Scenario 1

Variables		B	Std. Error	Wald	df	Sig.	95 % Confidence Interval Lower Bound	95 % Confidence Interval Upper Bound
Variables	FREQUENCE	-.19	.10	3.42	1	.06	-.40	.01
	Agebis	.13	.08	2.72	1	.09	-.02	.29
	[MOTIF_DU_SEJOUR=1]	.22	.25	.80	1	.37	-.26	.71
	[MOTIF_DU_SEJOUR=2]	0			0			
	[SEXE=1]	-.17	.21	.64	1	.42	-.58	.24
	[SEXE=2]	0			0			
	[cartebis=1,00]	-.47	.23	4.03	1	.04	-.93	-.01
	[cartebis=2,00]	0			0			

Scenario 2

Variables		B	Std. Error	Wald	df	Sig.	95 % Confidence Interval Lower Bound	95 % Confidence Interval Upper Bound
Variables	FREQUENCE	-.05	.09	3.34	1	.06	-.24	.13
	Agebis	.12	.07	3.18	1	.07	-.01	.26
	[MOTIF_DU_SEJOUR=1]	.29	.22	1.80	1	.18	-.13	.71
	[MOTIF_DU_SEJOUR=2]	0			0			
	[SEXE=1]	.32	.18	3.13	1	.08	-.04	.68
	[SEXE=2]	0			0			
	[cartebis=1,00]	-.11	.20	3.30	1	.07	-.50	.28
	[cartebis=2,00]	0			0			

Scenario 3

Variables		B	Std. Error	Wald	df	Sig.	95 % Confidence Interval	
							Lower Bound	Upper Bound
Variables	FREQUENCE	-.07	.09	.58	1	.44	-.26	.11
	Agebis	.19	.07	4.46	1	.03	.05	.33
	[MOTIF_DU_SEJOUR=1]	-.03	.22	.02	1	.88	-.46	.40
	[MOTIF_DU_SEJOUR=2]	0			0			
	[SEXE=1]	.34	.19	3.36	1	.07	-.02	.70
	[SEXE=2]	0			0			
	[cartebis=1,00]	-.48	.20	5.51	1	.02	.08	.88
	[cartebis=2,00]	0			0			

Scenario 4

Variables		B	Std. Error	Wald	df	Sig.	95 % Confidence Interval	
							Lower Bound	Upper Bound
Variables	FREQUENCE	.18	.13	1.83	1	.18	-.08	.44
	Agebis	.07	.09	.56	1	.45	-.11	.25
	[MOTIF_DU_SEJOUR=1]	.49	.31	2.59	1	.10	-.11	1.09
	[MOTIF_DU_SEJOUR=2]	0			0			
	[SEXE=1]	-.06	.25	.061	1	.80	-.55	.42
	[SEXE=2]	0			0			
	[cartebis=1,00]	-.62	.29	4.39	1	.04	-1.19	-.04
	[cartebis=2,00]	0			0			