

Analyzing the effect of Revenue Management on customers' perceived fairness, price acceptance and switching intention in the service industry

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Abstract: Nowadays Revenue Management (RM) has been applied widely across industries around the world in order to maximize revenue and profit. Since RM causes price discrimination, this paper aimed to investigate how price variances for the same customer over the time impact customers' perceived price fairness, price acceptance and switching intention. Given this RM practice, two characteristics of price variances including intensity (minor vs. major) and type of price variance (price increase vs. price decrease) were simultaneously taken into account. The research results revealed that the two examined characteristics of price variances all have profound effects on customers' perception and behavioral intention.

Key words: Revenue Management, price variances, price fairness; price acceptance; switching intention

Managerial summary

For any retailing firm, an efficient pricing policy always plays an essential role in their financial success. Owing to the rapid development of information technology, more and more retailers around the world have been applying Revenue Management (RM), a variable pricing strategy to maximize revenue and profit. Since RM causes price discrimination, this study aimed to examine how customers perceive and react to the price discrimination. Different from previous research, this study particularly focused on the price discrimination for the same customer over time due to demand variances. The customers targeted in this study were leisure customers since they are probably more sensitive to prices than business customers, therefore could be more impacted by price variances. The second research objective was to explore how some characteristics of this price discrimination impact perception and subsequent behavioral intention of customers, including intensity of price variance (minor vs. major) and type of price variance (a price increase vs. a price decrease).

The research results indicated that in the RM practice, customer perception of price fairness has a positive effect on price acceptance and a negative effect on switching intention. Price acceptance also has a negative effect on switching intention. Hence, price acceptance partially mediates the negative link between perceived price fairness and switching intention of customers. Furthermore, two characteristics of price variances mentioned above were proved to have strong impacts on customers' perception and behavioral intention. The increase in intensity of price variance will significantly reduce the perceived price fairness and price acceptance, therefore enhance switching intention. In addition, compared with price increases, price decreases are perceived as fairer, lead to higher price acceptance and lower switching intention.

The Research results in this study provide some managerial implications for retailing firms applying RM. Within the RM system of a firm, optimal prices to maximize revenue are charged basically based on analyzing the market demand and firm's available capacity. While capacity of a firm is relatively fixed, the market demand often fluctuates over time. Consequently, an RM system can only compute optimal prices in the short term in harmony with corresponding demand variance and unable to provide optimal prices for the long term. The significant negative link between perceived price fairness and switching intention implies that within RM practices, customers tend to find and switch suppliers in order to obtain fairer and more acceptable prices rather than loyal to one retailer. Thus, although applying RM helps retailers maximize revenue and profit in the short term, it could be harmful to their long term profit due to the impact on switching intention, especially for retailers having various direct competitors. Retailing firms therefore should pay attention to establishing prices as fair as they can to reduce switching intention of customers, as indicated by Gupta & Lehmann (2003), the longer a firm maintain its customers, the more revenue and profit it could earn from them. Moreover, the effects of type of price variance on customers' perception and intention specify that price increases cause more negative consequences on customers' perceived fairness and switching intention, and are less acceptable than price decreases. In peak periods, if retailers merely rely on the increase in market demand to keep raising their prices, customers may think that they are treated unfairly, and the retailers are taking advantage of them to enrich and earn more profit. Instead, retail firms should combine price decreases with price increases to restrict customers' attribution and improve perceived price fairness. Retailing firms should also focus on modifying intensity of price variances, keep prices varying within an acceptable interval to make their prices fairer in the eyes of customers, thereby maintaining good customer relationships for their sustainable financial development.

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1. Introduction

Thanks to the rapid development of information technology, Revenue Management⁴ (RM) has become an increasingly popular pricing strategy applied by most retailers around the world, especially retailers in service industries such as airlines, hotels, restaurants, tour operations (Ivanov, 2014; Ng, 2008). In this paper, based on previous definitions, RM is defined as “the strategy to maximize revenue by variable pricing and allocating perishable and limited capacity according to customer, time, location and distribution channel” (for other definitions of RM, see Fleischmann et al., 2004; Kimes, 1989; Kimes & Wirtz, 2003; Wirtz et al., 2003). It can be noticeable that among retailers applying RM, prices charged by retailers in the airline industry vary most considerably in various forms. For example, prices could vary across different customers based on the type of flight ticket such as business, economy, refundability for cancelation. One customer may pay a higher or lower price than other ones pay. Prices could be also charged differently for the same customer over time due to peak or off-peak time. One customer possibly pay a higher or lower price than the previous one he paid. As one customer shared⁵: “Yesterday, I came online to purchase a flight ticket. When I was about to finalize the transaction, the internet was suddenly interrupted. Just a few minutes later, I logged in the website again to purchase the same ticket, but unfortunately, the price increased by 50%”.

Since RM causes price discrimination to maximize revenue, price fairness perception becomes a major concern in this study. The first research objective of this study is to examine how customers perceive and react to the price discrimination resulting from RM. In the existing literature on RM, price fairness perception and customer responses to the perceived fairness (or unfairness) have drawn attention of numerous researchers on this field. However, it was found that the previous research almost took into account the price discrimination between different customers (e.g., Ferguson & Ellen, 2013; Frey & Pommerchne, 1991; Li et al. 2018; Mcshane & Ashworth, 2003). To expand previous research on RM, this study particularly focused on the price discrimination for the same customer over time due to demand variance. Accordingly, the second research objective is to investigate how characteristics of this price discrimination impact customers' perception and behavioral intention.

2. Conceptualization

One of the key concepts in this study, price fairness, was defined by Xia et al. (2004) as “a judgment of whether an outcome and/or the process to reach an outcome are reasonable, acceptable, or just.” According to the well-known concept proposed by Xia et al. (2004), acceptability is an important component of fairness perception. Given the literature on pricing and price fairness, it is revealed that most existing research looked into price discrimination between different customers. Furthermore, only the price difference disadvantageous for customers, e.g., a higher price one customer paid compared with others, was examined to find out the consequences on customers' perception and responses (e.g., Ferguson & Ellen, 2013; Frey & Pommerchne, 1991; Li et al., 2018; Mcshane, 2003; Malc et al., 2016). Meanwhile, the price difference advantageous for customers, e.g., a lower price compared with other customers, was not taken into consideration, and its influence on customer perception and reaction remains

⁴ Revenue Management is also known as Yield Management. Some similar concepts are Dynamic pricing, Personalized pricing, Customized pricing

⁵ This was shared by a Vietnamese customer participating in the survey of this study.

unanswered. Considering a price increase (a disadvantageous price difference), according to Xia's definition, if customers perceive it to be fair, they will accept it; conversely, if regarded as unfair, the price increase will be not acceptable. Considering a price decrease (an advantageous price difference), if customers perceive it as fair, they definitely accept it; in contrast, if perceived as unfair, e.g., a large price decrease of 90%, it may still be acceptable since customers economically benefit from it. It can be seen that regardless of fairness or unfairness, a price decrease is highly likely to be acceptable. Thus, the prevalent fairness concept developed by Xia et al. (2004) is inconsistent with the case of price decreases.

As mentioned previously, the research context of this study was the price discrimination for the same customer. In this study, not only disadvantageous price differences (price increases) but also advantageous ones (price decreases) were considered simultaneously. Due to the inconsistency of fairness concept by Xia et al. (2004) with the case of price decreases, in our study, we excluded acceptability from fairness perception and regarded it as a distinct construct: price acceptance. We defined perceived price fairness as "a customer's assessment of whether a price variance is reasonable and equal to both the customer and the seller in that transaction", and price acceptance as "customers' acceptance level of a price variance or the level of their willingness to pay a new price after that price variance." The price variance here could be either a price increase or a price decrease.

When exploring the effect of price fairness on customer reaction, many studies paid attention to the relationship between fairness and customer loyalty (e.g., Asadi et al., 2014; Bei & Chiao, 2001; Campbell, 1999; Herrmann et al., 2007; Martín-Consuegra et al., 2007; Martín-Ruiz et al., 2008). In the context of RM practice, this study took another approach, investigating the link between fairness, price acceptance, and switching intention. This is derived from the fact that prices keep varying over time, customers therefore probably tend to often select the most suitable price in the market and switch to another supplier with a better price rather than being loyal to a specific supplier. Hence, the third construct examined in this study is switching intention. According to Wirtz et al. (2014), switching intent "represents the customer's self-reported likelihood of terminating a current service relationship." In this paper, switching intention is defined as "customers' intent to temporarily or permanently switch to other alternative providers after encountering price variances." Thus, regarding the first research objective, three relevant constructs were investigated, including perceived price fairness, price acceptance and switching intention.

3. Theoretical foundation and hypothesis development

In the theory of Social Comparison, Festinger postulated that there exists a drive within individuals to obtain accurate evaluations of their opinions and abilities. This evaluation is implemented through comparison (Festinger, 1954). In the context of RM practice, the object evaluated and compared is price fairness. The Dual Entitlement Theory further explained how people judge price fairness by the rule of fair exchanges which insists that customers are entitled to a reasonable price based on the comparison with reference price while firms have entitlement to reasonable profit based on reference profit. When a price variance occurs and deviates far from the reference price, it violates customers' entitlement and will be seen as unfair (Kahneman et al., 1986). These two theories set the foundation to investigate the research context in this study: A customer already purchased a service, then repurchases that service and experiences a price variance. The price he last paid could be used as a reference point to judge the current price.

Concerning the first research objective of this study, customers' fairness perception and their reaction including price acceptance and switching intention were taken into consideration.

Firstly, the effect of price fairness perception on price acceptance was proposed based on Transaction Utility Theory. According to this theory, transaction utility, defined as the difference between the reference price and the selling price, will impact customers' pleasure to carry out the transaction and their willingness to pay. The reference price is customers' estimation of a fair price they expect to pay. If transaction utility is positive, this will incentivize customers to purchase; conversely, if it is negative, customers' willingness to pay is dampened (Thaler, 1983; Thaler, 1985). Thus, through transaction utility, this theory specifies the impact of the expected prices or fair prices in customers' mind on their purchase decision and willingness to pay. Relying on this theory, the first hypothesis about the link between perceived price fairness and price acceptance was proposed:

H1: Perceived price fairness positively impacts price acceptance.

In addition to the effect on price acceptance, perceived price fairness was also assumed to have an impact on switching intention. This assumption was based on the theory of Inequity In Social Exchange which postulated that an individual is concerned not only with the absolute level of outcomes, but also with fairness of outcomes for all objects involved in an exchange relationship. When inequity in the individual's side occurs, this causes dissatisfaction and tension for him. This tension will motivate him to reduce inequity or eliminate it so as to attain equity. The intensity of such motivation is proportional to the level of his perceived inequity (Adams, 1965). According to this theory, if customers perceive a price variance to be unfair, they may not accept it and could be motivated to eliminate the perceived unfairness by switching to other providers. This theory lays the basis to propose the following hypotheses:

H2: Perceived price fairness negatively impacts switching intention.

H3: Price acceptance negatively impacts switching intention.

The first three hypotheses proposed specific customers' perception and reaction caused by the price differentiation in RM practices. Next hypotheses further examined which particular characteristics of the price differentiation considerably influence customers' perception and reaction. In RM practices, prices can increase or decrease over time. When contrasting price increases with price decreases, one of the noteworthy points of Prospect Theory is that customers are more sensitive to and more concerned for losses than for gains with the same amount (Kahneman & Tversky, 1979). Both price increases and price decreases substantially different from a reference price may be all seen as price inequities. However, on the customers' side, price decreases are regarded as gains while price increases are regarded as losses. Thus, according to prospect theory, price decreases are likely to be perceived as less unfair, more acceptable and cause a lower switching intention than price increases. The effect of the first characteristic of price discrimination, type of price variances, on customers' perception and reaction was proposed as follows:

H4: Type of price variance positively impacts perceived fairness.
(Price decreases are perceived to be fairer than price increases.)

H5: Type of price variance positively impacts price acceptance.
(Price decreases lead to higher price acceptance than price increases.)

H6: Type of price variance negatively impacts switching intention.
(Price decreases lead to lower switching intention than price increases.)

In addition to type of price variance, intensity of price variances is the element directly affecting financial benefit of customers, specifically the magnitude of a loss or gain that they experience in a purchase transaction. Therefore, the second characteristic of price

discrimination, intensity of price variances was supposed to have a strong impact on perception and intention of customers as postulated below:

H7: Intensity of price variances negatively impacts perceived price fairness.

H8: Intensity of price variances negatively impacts price acceptance.

H9: Intensity of price variances positively impacts switching intention.

4. Methodology

4.1 Research design

In order to test hypotheses mentioned above, this study utilised a 2(type of price variance: price increase vs. price decrease) x 2(intensity: minor vs. major) between-subject experimental design. The method of data collection was the scenario-based survey in the airline industry. Participants in the survey were Vietnamese passengers at Danang airport, an international airport in the middle of Vietnam (for demographics information, see Appendix A). The survey took place from the beginning of November, 2019 to the middle of February, 2020.

4.2 Measurement

Independent variables (IV): the first IV, type of price variances, comprises 2 categories: price increase or price decrease. Testing this categorical IV requires using a dummy variable which is coded 0 for price increases and 1 for price decreases. The second one, intensity of price variances was measured by the percentage of price changes, including two levels: minor (20%) and major (70%). Each level (20% or 70%) was kept the same in both cases of price increase and price decrease (e.g., a minor price increase: 20%; a minor price decrease:20%).

Dependent variable (DV): Since three DVs in this study are latent variables, such DVs were measured by using scales. To construct the scale of perceived price fairness, there were 3 items developed based on the scale of Campbell (2007) and 1 new item. The scale of price acceptance consisted of 2 items modified from those in scale of Martín-Consuegra 's study (2007) and 2 new items proposed by the authors. For the scale of switching intention, its 4 items was constructed based on 3-item scale of Antón et al., (2007). For specific information about scales proposed to 3 dependent variables, see Appendix B.

4.3 Research procedure and sampling

The research procedure comprised 4 phases which were Manipulation Check, Exploratory Factor analysis (EFA), Confirmatory Factor analysis (CFA), and testing Structural Model, respectively. The first phase, Manipulation Check, aimed to test whether IVs were manipulated successfully or not. In other words, this was to check if 2 levels of each IV were perceived differently by respondents. For conducting the manipulation check, 2 questionnaires were designed in order to test the differences between 2 scenarios: scenario 1 relating to a major price increase; scenario 2 relating to a minor price decrease. A hundred participants were randomly assigned to 1 of these 2 scenarios (50 people per scenario). The next 2 phases, EFA and CFA was carried out to check the reliability and validity of the measurement model for 3 latent constructs before testing Structural Model, the last phase to test hypotheses in this study. The total number of valid responses in EFA and CFA were 320 and 1586, respectively.

5. Data analysis and research results

5.1 Manipulation check

Data from the manipulation check was analysed by using 2 One-way ANOVAs. The 2 ANOVAs all indicated that respondents evaluated 2 levels of each IV differently: perception of

the type of price variance across two scenarios significantly different at $p < .001$, $F(1, 98) = 956,49$; evaluation of intensity of the price variance was also proved different by both the Welch test [$F(1,80.461) = 114.975$, $p < .001$] and Brown-Forsythe test [$F(1,80.461) = 114.975$, $p < .001$]. This provides the evidence that the 2 IVs were manipulated successfully, therefore they were kept the same in the next research phases.

5.2 Exploratory Factor analysis

Figure 1: Factor loadings, reliability and validity

Factors	Items	Factor matrix (Factor loadings)			α	CR	AVE	MSV (r_{maximal}) ²	Variance explained (Total: 74.4%)
		F	PA	SI					
Fairness (F)	F1	0.863			0.925	0.922	0.747	(0.662) ²	53.3%,
	F2	0.826							
	F3	0.854							
	F4	0.911	-0.109						
Price acceptance (PA)	PA1		0.948		0.907	0.891	0.679	(0.662) ²	6.70%
	PA2		0.968						
	PA3		0.647						
	PA4	0.194	0.679						
Switching intention (SI)	SI1		0.11	0.731	0.912	0.911	0.72	(-0.627) ²	14.4%,
	SI2			0.884					
	SI3			0.964					
	SI4		-0.162	0.797					
Correlation	F ↔ PA: .662; F ↔ SI: -.451; PA ↔ SI: -.627								

The EFA using Maximum Likelihood Extraction and Promax Rotation revealed that there were 3 latent factors extracted from 12 items proposed to 3 scales. These 3 factors all had strong loadings greater than the threshold 0.5. The 3-factor model identified by EFA obtained very good reliability and validity (including both convergent and discriminant validity), as indicated by Cronbach's α , Composite Reliability (CR), Average Variances Extracted (AVE) indices and comparisons between AVE – MSV (Maximum Shared Variance) in figure 1. Therefore, this 3-factor model with 12 items were kept the same and used as the baseline model for the next phases, CFA and SEM.

5.3 Confirmatory Factor analysis

When performing CFA, some modifications were made in order to improve the model fit, involving adding covariances between some measurement errors (PA1 and PA2; SI2 and SI4), removing PA3, and removing SI1. As a result of these modifications, the measurement model reached very good model fit as evidenced by Normed $\chi^2 = 2.397$, GFI = .991, AGFI = .984, TLI = .995, CFI = .997, RMSEA = .030, SRMR = .0138. According to Hair et al. (2010), the improved measurement model met all absolute and relative Fit Indices, except χ^2 test ($\chi^2(30) = 71.992$, P value $< .001$) due to sensitivity to sample size. The reliability and validity of CFA model were also confirmed by α , CR, AVE indices and AVE- MSV comparisons in figure 2. Relying on CFA results, the remaining 10 items of the measurement model was going to be used in Structural Model.

Figure 2: Standardized factor loadings, reliability and validity

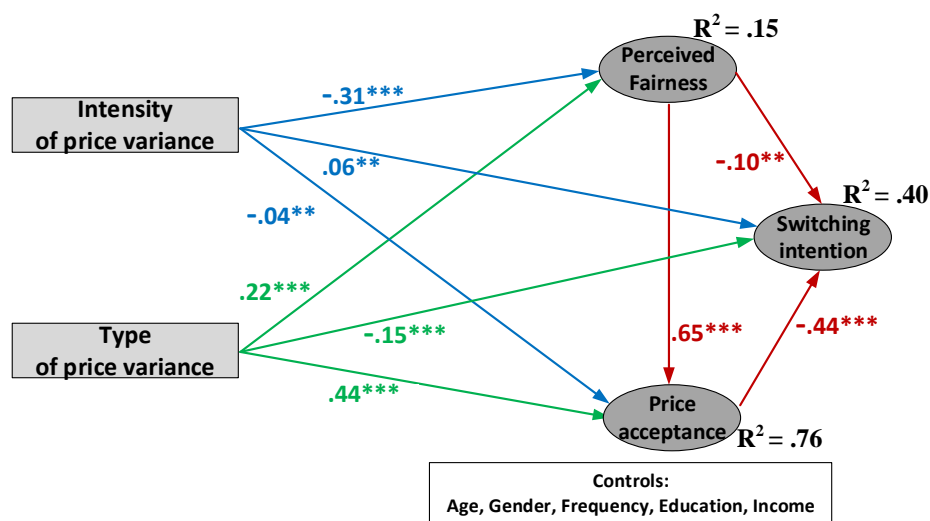
Factors	Items	Standardized factor loadings	α	CR	AVE	MSV
Fairness (F)	F1	0.853	0.922	0.922	0.747	$(.748)^2$
	F2	0.847				
	F3	0.897				
	F4	0.859				
Price acceptance (PA)	PA1	0.748	0.891	0.859	0.672	$(.748)^2$
	PA2	0.806				
	PA4	0.898				
Switching intention (SI)	SI2	0.928	0.941	0.953	0.872	$(-.613)^2$
	SI3	0.934				
	SI4	0.939				
Correlations	F \leftrightarrow PA: .748; F \leftrightarrow SI: -.484; PA \leftrightarrow SI: -.613					

5.4 Testing Structural Model

Results from Path Analysis in figure 3 showed that all hypotheses postulated in this study were supported. Squared Multiple Correlations (R^2) were very high, specifying that the structural model explained 15% variance of perceived price fairness, 76% variance of price acceptance, and 40% variance of switching intention.

The structural model presented in figure 3 contains 9 items to measure 3 DVs rather than 10 items in the CFA measurement model. The item PA1 was removed to improve fitness of the structural model. The χ^2 difference test was significant at $p < .001$, $\Delta\chi^2(17) = 226.415$, confirming that removing PA1 resulted in the better Model Fit. As reported in figure 4, the structural model without PA1 meets all absolute and relative Fit Indices, except for χ^2 test due to sensitivity to sample size. In conclusion, all hypotheses in this study were supported not only by local test (Significant P values) but also by global tests including variances explained (R^2) and Goodness of fit.

Figure 3: Structural Model



(Note: * = p value < 0.1; ** = p value < 0.05; *** = p value < 0.01)

Figure 4: Model Fit Indices (Good indices are highlighted)

Fitness Indices	χ^2	df	<i>p</i>	Normed χ^2	GFI	AGFI	TLI	CFI	RMSEA	SRMR
Structural model (containing item PA1)	381.544	91	<.001	4.193	.972	.954	.973	.982	.045	.0235
Structural model (removing PA1)	166.098	77	<.001	2.157	.987	.977	.990	.994	.027	.0171

6. Theoretical and managerial contribution

Fairness perception is one of the critical concepts drawing substantial attention of researchers in marketing field. As conceptualizing the price fairness, this study extended the prevalent fairness concept of Xia et al. (2004) by considering the effect of economic benefit on perceived fairness. In the case of general price variances, including price increases-disadvantageous price variances and/or price decreases- advantageous ones, the item acceptability was separated from fairness concept to be viewed as a distinct one. The results of this study provided empirical evidence to prove that fairness and acceptance are two different constructs. Two corresponding scales with high reliability and validity were also provided to measure these two constructs. Through investigating the price discrimination for the same customer, this study specified the link between customers' perception and their consequent behavioral intention. Especially, customers' switching intention in the RM practice was first examined and investigated in this study. It was revealed that perceived price fairness has a significant negative effect on switching intention, including both direct and indirect effects via price acceptance. This study also shed light on how two characteristics of price discrimination, intensity and type of price variances, impact customers' perception and behavioral intention. The increase in intensity of price variances was found to lessen perceived price fairness, price acceptance, and enhance switching intention of customers. Price decreases are perceived to be fairer, lead to higher price-acceptance level and lower switching intention.

From the findings of this study, there are some managerial implications for retailers applying RM. Firstly, retailers should pay attention to establishing fair prices as much as they can since price fairness is both directly and indirectly related to switching intention which affects financial sustainability and long term profit of any retail firm, especially for those operating in industries with numerous competitors. In order to establish fair prices, it is crucial to take into account the effect of two characteristics of price variances: type and intensity of price variances. Concerning type of price variance, compared with price decreases, price increases were proved to cause more negative effects on customers' perceived fairness and switching intention, and are less acceptable than price decreases. In peak periods, the market demand is obviously high. If retail firms merely rely on the increase in market demand to keep raising their prices, customers may think that they are treated unfairly, and the retailers are taking advantage of them to enrich and earn more profit. Instead, retail firms should combine price decreases with price increases to restrict customers' attribution and improve perceived price fairness. The second characteristic, intensity of price variance, negatively impact price fairness and positively impact switching intention. Thus, although the rise in intensity of price variance boosts revenue and profit, there will have a trade-off between the additional short-term profit and sustainability and survival of firms in the long term due to intensifying customers' switching intention. Retailing firms therefore, should modify intensity of price variances, keeping prices varying within an acceptable interval so as to enhance the perceived fairness of customers and then sustainable financial development of firms.

7. Limitations and suggestion for future research

When investigating customer reaction to their price fairness perception stemming from RM practice, this study specifically focused on switching intention. However, switching intention investigated in this study related to switching the supplier and did not involve switching to another time with a better price or switching to an alternative service of the same supplier. In this study, the effect on customer intention to switch the supplier was proved significant in the context that retailing companies have many competitors while customers' switching cost is low. Customers therefore have various options, and their switch faces almost no barrier. In contrast, in the case of retailing companies with few competitors or numerous switching barriers, switching the time or switching to alternative services of the same supplier appear more prevalent.

Before RM becomes commonplace through the support of information technology, prices of goods and services were charged by static pricing in which only one price is set for a specific item. Between RM and static pricing, which pricing method customers perceive to be fairer and preferable? Future research on retail prices should analyze and compare RM with static pricing to figure out which pricing strategy leads to higher customer loyalty. Moreover, since information could be a powerful tool to influence customers' perception and responses, future research should also investigate the moderating effect of some ways of providing information on customers' causal attribution of price differences. Findings from studies into providing information may illuminate and specify effective ways of explaining price differences to customers, thereby improving their perceived price fairness and loyalty.

Bibliography

- Adams, J. S. (1965). Inequity In Social Exchange. *Advances in Experimental Social Psychology*, 2, 267–299.
- Antón, C., Camarero, C., & Carrero, M. (2007). The Mediating Effect of Satisfaction on Consumers ' Switching Intention. *Psychology & Marketing*, 24(6), 511–538.
- Asadi, A., Pool, J. K., & Jalilvand, M. R. (2014). The effect of perceived price fairness through satisfaction and loyalty on international tourists' price acceptance of Islamic-Iranian art products. *Education, Business and Society: Contemporary Middle East*, 5(1), 6–22.
- Bei, L.-T., & Chiao, Y.-C. (2001). An Integrated Model for the Effects of Perceived Product, Perceived Service Quality, and Perceived Price Fairness on Consumer Satisfaction and Loyalty. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 14.
- Bolton, L. E., Warlop, L., & Alba, J. W. (2003). Consumer Perceptions of Price (Un)Fairness. *Journal of Consumer Research*, 29(4), 474–491.
- Campbell, M. C. (1999). Perceptions of Price Unfairness: Antecedents and Consequences. *Journal of Marketing Research*, 36(2), 187–199.
- Campbell, M. C. (2007). “ Says Who ?!” How the Source of Price Information and Affect Influence Perceived Price (Un) fairness. *Journal of Marketing Research*, 44(2), 261–271.
- Ferguson, J. L., & Ellen, P. S. (2013). Transparency in pricing and its effect on perceived price fairness. *Journal of Product and Brand Management*, 22(5), 404–412.
- Festinger, L. (1954). A Theory of Social Comparison Processes. *Human Relations*, 7(2), 117–140.
- Fleischmann, M., Hall, J. M., & Pyke, D. F. (2004). Smart Pricing.pdf. *MIT Sloan Management Review*, 45(2), 9–13.
- Frey, B. S., & Pommerchne, W. W. (1991). On the Fairness of Pricing - An Empirical Survey Among the General Population. *Journal of Economic Behavior and Organization*, 20(3), 295–307.
- Gupta, S., & Lehmann, D. R. (2003). Customers as assets. *Journal of Interactive Marketing*, 17(1), 9–24.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (Seventh Ed).
- Herrmann, A., Xia, L., Kent, M. B., & Huber, F. (2007). The influence of price fairness on customer satisfaction: An empirical test in the context of automobile purchases. *Journal of Product and Brand Management*, 16(1), 49–58.
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1986). Fairness as a constraint on profit seeking: Entitlements in the market. *American Economic Review*, 76(4), 728–741.
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47(2), 263.
- Kimes, S. E. (1989). the Basics of Yield Management.Pdf. *Cornell Hotel and Restaurant Administration Quarterly*, 30(3), 14–19.
- Kimes, S. E., & Wirtz, J. (2003). Has Revenue Management Become Acceptable?: Findings From an International Study on the Perceived Fairness of Rate Fences. *Journal of Service Research*, 6(2), 125–135.

- Li, W., Hardesty, D. M., & Craig, A. W. (2018). The impact of dynamic bundling on price fairness perceptions. *Journal of Retailing and Consumer Services*, 40(October 2017), 204–212.
- Malc, D., Mumel, D., & Pisnik, A. (2016). Exploring price fairness perceptions and their influence on consumer behavior. *Journal of Business Research*, 69(9), 3693–3697.
- Martín-Consuegra, D., Molina, A., & Esteban, Á. (2007). An integrated model of price, satisfaction and loyalty: an empirical analysis in the service sector. *Journal of Product & Brand Management*, 16(7), 459–468.
- Martín-Ruiz, D., & Rondán-Cataluña, F. J. (2008). The nature and consequences of price unfairness in services: a comparison to tangible goods. *International Journal of Service Industry Management*, 19(19), 325–352.
- Mcshane, L., & Ashworth, L. (2003). *Price Comparisons as Information about Personal Competence and Relational Value: The Influence on Perceived Fairness Does a Product Category Have a Motivational Orientation? Effects on Health Message Efficacy*. 39(Volume 39).
- Ng, I. C. L. (2008). *The Pricing and Revenue Management of Services* (Vol. 7).
- Sfodera, F. (2006). *The spread of yield management practices: the need for systematic approaches*.
- Thaler, R. (1983). Transaction Utility Theory. *ACR North American Advances*, NA-10.
- Thaler, R. (1985). Mental Accounting and Consumer Choice. *Marketing Science*, 4(3), 199–214.
- Wirtz, J., Kimes, S. E., Theng, J. H. P., & Patterson, P. (2003). Revenue management: Resolving potential customer conflicts. *Journal of Revenue and Pricing Management*, 2(3), 216–226.
- Xia, L., Monroe, K. B., & Cox, J. L. (2004). The Price is Unfair! A Conceptual Framework of Price Fairness Perceptions. *Journal of Marketing*, 68(4), 1–15.

Appendix A: Demographics of the whole sample⁶

Demographics (Total: 1.906 customers)		Frequency	Percent
Gender	Male	1194	62.6
	Female	712	37.4
Education	High school	120	6.3
	College	233	12.2
	Bachelor	1303	68.4
	Master	225	11.8
	Ph.D. (Doctor of philosophy)	25	1.3
Speciality	Science and technology	535	28.1
	Economic, business and management	735	38.6
	Social sciences, art and communication	105	5.5
	Medical care, health, and sport	144	7.6
	Education	117	6.1
	Another specialty	190	10.0
	Have no specialty yet	80	4.2
Income	From 0 – 4.9 million Đ	148	7.8
	From 5 – 9.9 million Đ	492	25.8
	From 10 – 19.9 million Đ	740	38.8
	From 20 – 49.9 million Đ	372	19.5
	≥ 50 million Đ	154	8.1
Age	under 20	25	1.3
	From 20 to 26	634	33.3
	From 27 to 33	711	37.3
	From 34 to 40	364	19.1
	From 41 to 47	117	6.1
	From 48 to 60	55	2.9
Frequency of purchasing airline tickets per year	From 1 to 2	444	23.3
	From 3 to 5	650	34.1
	From 6 to 10	466	24.4
	From 11 to 19	115	6.0
	≥ 20	231	12.1

⁶The whole sample: 1906 customers, including 320 in EFA and 1586 in CFA)

Appendix B: Scales proposed to 3 dependent variables

Variables	Original scales	Modification for this study
Perceived price fairness	Scale used in Campbell's study (2007) : 1. Unfair / fair 2. Wrong / right 3. Unreasonable / reasonable	Scale anchored by 1- completely disagree to 7- completely agree): F1. Considering all things, the price variance that you experienced is reasonable . F2. Considering all things, the price variance that you experienced is fair to both sides: the customer and the supplier. F3. Considering all things, the price variance that you experienced is appropriate . F4. Considering all things, the price variance that you experienced is right .
Price acceptance	Scale used in Martín-Consuegra 's study (2007), anchored by 1- strongly disagree to 7- strongly agree: 1. Sometimes I am willing to pay more 2. I know the reference price level 3. I usually accept changes in prices 4. I have a good knowledge of price distribution in the airline industry	Scale anchored by 1- completely disagree to 7- completely agree, except for item 4: PA1. When experiencing this price variance, you were willing to pay the second price. PA2. You approve the price variance that you experienced. PA3. You want to experience a price variance similar to this situaton in the next time of purchasing flight tickets. PA4.The price variance that you experienced is: From 1-completely unacceptable to 7-completely acceptable
Switching intention	Five-point scale used by Antón et al., (2007): 1. I have considered changing companies 2. I have no intention to renew with this company 3. I intend to insure my automobile with another company in the future	Scale anchored by 1-completely disagree to 7- completely agree: SI1. Due to this price variance, you intend not to continue purchasing flight tickets of XYZ airline in next time. SI2. Due to this price variance, you consider switching to another airline in the next time. SI3. Due to this price variance, you intend to switch to another airline in the next time. SI4. Due to this price variance, it is highly likely that you will switch to another airline in the next time.