Airliner's Pricing Strategies and Perceived Price Fairness

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ABSTRACT

Price discriminatory tools and Yield Management are common practices in the Airline industry. Ever since the deregulation of the airline market, airliners are able to charge prices without government intervention. This paper investigates the effect of the pricing strategies employed by airliners and attempts to explain perceived price fairness by customers exposed to these strategies. The model is based on an extensive literature review about airliner's pricing strategies and perceived price fairness. The model suggests that pricing strategies, like Yield Management, have a negative effect on perceived price fairness. However, there are 3 extraneous variables that can weaken or strengthen that relationship: Elasticity of Demand, Lateral Consumer Relationship and Illusion of Control

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Price discrimination, perceived price fairness, yield management, dynamic pricing

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1. INTRODUCTION

In 1978 President Carter signed the Airline Deregulation Act, freeing airliners in the U.S. market from government intervention (Goetz & Sutton, 1997). Europe would follow later, starting with the Single European Act agreed upon in 1986 by the Member States (Scharpenseel, 2001). Consequently, airliners were able to charge any fare they wanted and in this paper different pricing strategies from airliners will be investigated to construct a model, linking them to perceived price fairness. One of the most common price practices in the airline industry is price discrimination; pricing discrimination is a pricing strategy providing an individual consumer or some segments of consumer groups with different prices (Krugman, 2000). In this paper we will examine price discrimination practices and yield management in the airline industry and investigate their effects on perceived price fairness. The airline industry was one of the first adopter of price discriminatory tools online (Kung, Monroe & Cox, 2002). But, are these pricing strategies that cause such dispersion between fares perceived as fair? For example, costumers who do not get a senior discount because they do not apply to the conditions, are less likely to perceive a higher price as unfair (Grewal, Hardesty & Iyer, 2004), but a costumer being charged a higher fare because he/she is booking on a different time of the week might view this pricing practice as unfair. However, what is the effect of other price discriminatory tools? The large dispersion in airfares paid by costumers traveling on the same flight has been inspected critically by both consumer groups and the media, who question the fairness of charging different prices for "the same good": a seat on a given flight. Airlines can price discriminate in two ways: first, by offering consumers a range of packages, or combinations of fares and restrictions attached to the tickets; and second, by restricting the number of discounted seats on each flight (Stavins, 2001). These tools of price discrimination, especially the various restrictions on flights, are used to sort passengers (Giaume & Guillou, 2004). The ultimate non-achievable objective of the airlines is first-degree price discrimination, where every passenger pays exactly what he or she would have been willing to pay, to the total exclusion of any consumer surplus (Toh & Raven, 2003). This paper reviews a number of pricing strategies that airliners (could) use as price discriminatory tools, they will be combined into one model to explain perceived price fairness. The importance of perceived price fairness is quoted by some to the direct link to price acceptance (Lichtenstein, Bloch & Black, 1998; Maxwell, 1995). More significantly, perceptions of price unfairness may lead to negative consequences for the seller, including buyers leaving the exchange relationship, spreading negative information, or engaging in other behaviors that damage the seller (Campbell, 1999). However, in this paper there is solemnly a focus on perceived price fairness.

Scientific articles and current models on perceived price fairness will be sourced as a basis of a model to explain the effects of pricing strategies on perceived price fairness in the airline industry. The literature in this paper are sourced from Google Scholar and Web of Science and are predominantly from 2000 and onwards. Although, there exists already papers on perceived price fairness and the effect of some price discriminatory tools or yield management on fairness, trust or loyalty, none of these papers include such a variety of pricing strategies linked to perceived price fairness as presented in this article. This paper will contribute to the existing literature on price discriminatory tools and provide and analysis of the most adopted price discriminatory tools in the airline market and their effect on perceived price fairness.

2. LITERATURE REVIEW

3. PRICING STRATEGIES

In this section an introduction will be made on airliner's pricing strategies: Yield management and, subsequently, price discrimination. Kimes (1994) and Yeoman et al. (2001) define yield management as a method that can help a firm sell the inventory unit to the right customer at the right time and for the right price. While this definition is the most simple, a more complete definition comes from Alderighi et al. (2012) who state: "yield management refers to a broad set of techniques that are profitably used by companies to implement a price discrimination policy when customers are heterogeneous, demand is uncertain and capacity is hardly modifiable". This definition is more specific to the airliner industry, where indeed demand is uncertain, customers are heterogeneous and the capacity (amount of seats) is hardly modifiable. Wang & Bowie (2009) mention the ultimate goal of yield management: "maximize revenue through the effective management of three main areas: pricing strategy, inventory control and control of availability". Lastly, there are three different degrees of price discrimination as defined by Carroll and Coates (1999):

- First-degree price discrimination
- Second-degree price discrimination
- Third degree price discrimination

First degree price discrimination occurs when a firms charges a different price for each offered unit of sale and occurs when there is bartering between a seller and buyer (Dutch auction, haggling etc.) Second degree price discrimination involves charging different prices for different quantities (bulk buying). Finally, third-degree price discrimination occurs when firms attempt to charge different prices to different costumer's groups (segments). Evidently, third-degree price discrimination is the most occurring tool of price discrimination in the airline market. Lastly, the goal of price discrimination is to extract as much consumer surplus as possible from each consumer group (Stavins, 2001). The next step is having a detailed look at each pricing strategy individually.

3.1 Yield Management

In the previous section we defined yield management (YM), this section contains an elaboration of YM. An insight into YM is explained in the paper of Alderighi et al. (2012), where the working of YM in the airline market is explained: "In the airline sector, YM implementation usually requires that seats are grouped into different booking classes, each having a definite fare and, in most cases, specific restrictions (ticket refunding, APD, valid travel days or stay restrictions)". Also, Pitfield (2005) stated that low cost carriers use yield management to charge low promotional prices in the beginning and as soon as capacity and an acceptable load factor are approached, the YM process raises the price of fares immediately. Furthermore, Alderighi et al. (2012) mention that in perfect equilibrium the airline defines a fare distribution where the cheapest fares are assigned to seats with the highest probability of sale and the highest fares are associated to seats that are seldom occupied and, finally, the role of YM analysts appears to play a substantial role. Indeed, while yield management is a highly computerized, the intervention by a yield manager remains very important. In a situation where the forecasted situations and the real situation do not align the yield manager can decide to stimulate demand and assign more seats to a cheaper booking class. Additionally, some researchers investigated the effect of yield management on ticket prices and came to varying conclusions. For example, Pigi and Filippi (2002) found that the highest prices for fares with low cost carriers (LCC) between 30

and 8 days before departure. Alderighi et al. (2012) conclude that, on average, on extra sold seat increases the price with about 2,6%, this also applies to LCC. Finally, generally a company's revenue normally increase 3-7 per cent by employing yield management practices, which results in some cases in a 50-100 per cent increase in profit (Wang & Bowie, 2009).

3.2 Saturday night Stay-over Requirement

Saturday-night stayover […] requirements are designed to discourage price-inelastic consumers from buying cheaper tickets on a given flight (Stavins, 2001). In another research by Alderighi et al. (2011) it is stated that duration of the stay, which is usually based on ticketing restrictions stipulating a minimum number of days stay or a Saturday night stay-over, is seen as a pragmatic way of separating high willingness-to-pay business travelers from lower willingness-to pay leisure travelers. However, this is under condition of a round trip. In other words, airliners want to separate price elastic (leisure travelers) and price inelastic travelers (like business travelers). For example, a price elastic customers like a student leaving for Barcelona on a Monday, would have no problem coming back on a Saturday or Sunday if the price is cheaper. On the other hand, business travelers are not that flexible and have other meetings to attend or want to spend the weekend with their family and purchase the more expensive fare flying back before the weekend. The price dispersion can vary considerably as further explained by Alderighi et al. (2011): "In particular the use of Saturday night stay-over or minimum stay requirements, can be used effectively and their impacts can be quite significant. Indeed, the long-stay travelers appear to enjoy discounts of about 50% relative to short stay travelers".

3.3 Advance-Purchase Requirement

Advance-Purchase Requirement (or Discount) is one of the most common price discriminatory tools in the airline industry mentioned in the literature. Dana (1998) concludes that firms use Advance-Purchase Discounts, as with Saturday night stayover requirement, to segment customers by their demand uncertainty; firms attract customers with more certain demands in order to reduce the costs of holding unutilized capacity or unused inventory. The assumption that customers are uncertain of their demand is further explained by Nocke et al. (2011) who states that consumers are likely to face uncertainty about their valuation when the time of consumption is far ahead in the future and consumers with a high expected valuation will optimally purchase the good at the early date whereas consumers with a low expected valuation will buy the good at the late date (provided their ex-post valuation exceeds the price of the good at that date). This is further reinforced by Alderighi et al. (2011), who also mention that consumers who buy tickets well in advance of a flight usually have a lower willingness-to-pay than those who buy closer to the departure, inter-temporal price discrimination is implemented by imposing an increasing pricing profile when booking date approaches the departure date. Consumers buying closer to the departure date can be characterized as price inelastic buyers. By delaying their purchase consumers may get a better picture about their personal fit with the product but increase their risk to become rationed. This trade–off influences the way in which prices change over time (Moller & Watanabe, 2010). Naturally, this pricing strategy can separate customers with low willingness to buy from people with a high willingness, but as mentioned under the header 'pricing strategies' airliners usually have a fixed capacity and an empty seat represent an opportunity cost, this problem is recognized as some researchers concluded that advance-purchase discounts arises from the airlines' need to derive schemes in situations where demands or travelers' preferences are uncertain (Dana, 2001; Gale and Holmes, 1993; Lott & Roberts 1991). Furthermore, Dana (1998) questioned advance-purchase discounts as a discriminatory device. It is stated that in order to establish whether a pricing technique is discriminatory one needs to know whether costs do not change over time, in other words: if costs change during the booking period there is not a case of price discrimination but of price difference. They state that airliners can experience a change of costs, namely: expected changing costs of underutilizing capacity. Conclusively, many articles address the effect of APD on fares. Generally, it is believed that fares increase at an accelerated rate as the departure date approaches (Bilotkach et al., 2007) and the best time to purchase tickets is suggested to be around three to four weeks before the departure date (Bilotkach & Rupp, 2011), whereas some researchers argue that fares are distributed in a U-shaped temporal profile, where discounts are preceded by periods of relatively higher fares (Alderighi et al. 2012).

3.4 Seasonal

Seasonal price discrimination is a more familiar pricing strategy of airliners. In peak periods, demands goes up and airliners are able to charge a higher fare. Gaggero & Piga (2011) mention the that in high-demand periods, when the airline can focus their pricing strategies on a specific group of passengers with high willingness to pay, it is found that fares of flights departing during the weeks of Christmas and Easter are on average less dispersed. This result is consistent with an inter-period price discriminatory strategy consisting in charging more fares clustered around a higher mean, leading to an overall reduction in fare dispersion during peak-periods. However, during such periods, the airline appear to charge a high fare throughout the 52 days before departure. (Gaggero & Piga, 2011).

3.5 Time-of-the-Week

In a paper from Puller & Taylor (2012) it is argued that the day of booking can be utilized as a price discriminatory tool. Travelers who purchase on the weekend (but travel any day of the week) may have different price elasticities than those who purchase during the week. If airlines believe that weekend purchasers are more likely to be price-elastic leisure travelers, then they may offer lower prices on weekends when the mix of purchasing customers makes demand more price elastic. This conjecture is supported by the finding that the weekend purchase effect is distinctly larger on routes with a mixture of both business and leisure customers than on routes that disproportionately serve leisure customers. The profitability of this weekend pricing strategy depends on how many of the customers purchasing on the weekend are "inframarginal" (and would have purchased at the weekday fare) versus how many of the customers are "marginal" (and would not have purchased if not for the lower weekend fare). However, the conclusion of their research is that fares are 5% lower when purchased on the weekend and that they perceive this conjecture as a form of price discrimination. In another research from Mantin & Koo (2010) the following is stated: "Internet traffic during weekends is lighter than at weekdays, allowing airlines to adopt a distinctive pricing policy during the weekend". They conclude in their research of over 1000 routes that the price dispersion on weekends is driven by greater price differentials, with the Friday–Sunday's price dispersion is approximately 15% higher than during the weekdays.

3.6 Refundable Ticket

Airliners can use refundable tickets as a tool of price discrimination. It can screen for risk averse customers. It is argued that business travelers tend to buy refundable tickets as opposed to leisure travelers. As with Advance-purchase discounts the underlining assumption in price discrimination through refundable tickets are travelers with a heterogeneous willingness to pay and are uncertain about their demand of travel. The fact that individual demand uncertainty is not fully resolved by the time the individual buys a ticket is used by the seller to price discriminate and extract more surplus (Escobari & Jindapon, 2012). Moreover, Moon & Watanabe (2010) confirm this in their research. They conclude that the factors related to the customers' demand uncertainty have a significant effect on the relative price between refundable and non-refundable tickets.

3.7 Behaviour-Based Price Discrimination

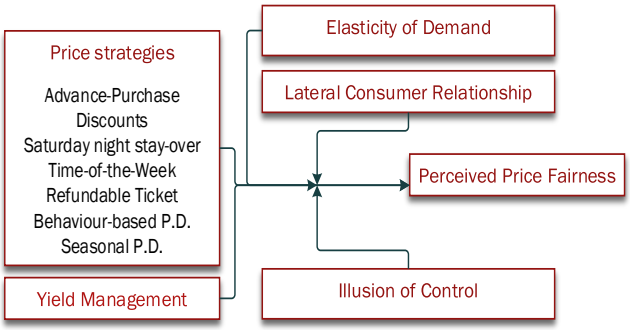
There is still little research on the alleged use of customer profiling in the airline market. While this sort of "behavior-based price discrimination" (BBPD) and use of "customer recognition" occurs in several markets, such as long-distance telecommunications, mobile telephone service, magazine or newspaper subscriptions, banking services, credit cards, labor markets (Fudenberg & Villas-Boas, 2006; Chen & Zhang, 2007). Furthermore, it is stated that seemingly many firms collect more information about their customers' behavior than they are able to process. As firms get better at processing this large amount of information, the effects of customer recognition are going to become more and more important and that when firms have information about previous purchases of customers, they may be able to charge different prices and when consumers are recognized customers will lose their privacy and may be charged higher prices. Indeed, this seems to be the consequence in the Amazon case, where repeating customers were charged with a higher price. But, how exactly is this data required? Companies employ a technique called data mining, it begins with collecting customer data from various sources. This data might include histories of customers' Web purchasing and browsing activities, as well as demographic and psychographic information (data could be derived from Facebook profiles or simple by giving personal information when making a profile on the internet). After the data is collected, it must be prepared, cleaned, and stored in a data warehouse (Adomavicius & Tuzhilin, 2001). Stored data has yet to be sorted as further explained in the research of Adomavicius and Tuzhilin (2001). A complete customer profile has two parts: factual and behavioral. The factual profile contains information, such as name, gender, and date of birth that the personalization system obtained from the customer's factual data. The factual profile also can contain information derived from the transactional data, such as "The customer's favorite beer is Heineken" or "The customer's biggest purchase last month was for $237."Companies do not even require to gather data themselves as they can still purchase relevant consumer-specific information from direct mailing databases specialists (Ulph & Vulkan, 2000). Furthermore, another way of collecting data is through so called cookies, this method is going through a lot of controversy. Companies can identify their customers through 'cookies' – these are small bits of information lodged on the user's computer to 'recognize' a returning customer. It is then even possible to match the customer to his previous history of browsing and purchases at the site. And it does not end there: once you provide the seller with the delivery address, they may be able to use existing third-party databases to get a better idea of the market value of the house you live in, the average income in your neighborhood, and so on (Daripa & Kapur, 2001; Alreck & Settle, 2007). Although, research on this practice in the airline industry is scarce, a limited research by the University of Twente found no evidence of behaviour-based price discrimination (Schrader, 2013). However, the application of behaviour-based price discrimination could have a significant impact on the returning customers. Toh and Raven (2003) seem to underline the impact by stating that through data mining, airlines can quickly react to changes in frequent-flier buying patterns to customize their product offerings, prices, and services to these important repeat customers. Lastly, the adaption of BBPD can make consumers hesitant in their online purchases in order to pay the lowest price, even though they are willing to pay the full price, they will share online their tricks to foil a firm's attempt to recognize individual consumers and, consequently, charge them different prices (Chen & Zhang, 2007). In other words, consumers become increasingly aware of a firm's attempt to recognize individual consumers and try to outsmart the firm by changing their buying behaviour (using the web without cookies).

4. MODEL

In this section the elaborated pricing strategies from the previous sections will be processed into a model of perceived price fairness. Firstly, the main price discriminatory tools and yield management will be processed in the model, their relationship to perceived price fairness is postulated negative. However, derived from scientific literature there is evidence for the negative relationship between pricing strategies and perceived price discrimination. Customers consider a price as unfair when they recognize the price strategy is used to obtain more profit, instead of building customer relationships (Da Silva, 2011). In the same paper it is found that the lower the score on perceived yield management, the higher the feelings of price fairness. Also, If the customer perceives no differences between offers other than price, they are likely to feel victimized (Marmorstein, Rossomme & Sarel, 2003), thus travelers who have to pay a higher amount because they intend to return before the weekend (on the condition of a round trip) are more likely to perceive a price as unfair because there is little difference in the product except for the price. Thus, if a firm differentiates its products so that customers view them as different, it can charge different prices for those products (Kimes, 1994), which is less likely to be perceived as unfair. Moreover, the specific focus on timing differences in study from Haws and Bearden (2006) demonstrated that consumers view price changes within very short time periods as more unfair than changes over a more extended time period, especially when exposed to lower prices. This directly refers to price discrimination based on Time-of-the-Week purchase and Yield management. Another study that addresses the effect of YM on perceived price fairness is presented by Huang, Chang and Chen (2004), who found that respondents to their research viewed yield management as an unfair practice. A similar result was found in a study from Selmi (2010), who found that consumers overall consider the practices of YM unacceptable. Also, Grewal et al. (2004) report a lower level of price fairness when internet-enabled buyer identification techniques are used. Lastly, if customers view peak-demand prices as higher than their reference price, then customers may view the price charged as unfair (Kimes & Wirtz, 2003).

Next, there are three extraneous variables that influence the relation between pricing strategies, YM and perceived price fairness. For example, the adoption of yield management has a more negative effect on leisure traveler than on business travelers (Da Silva, 2011; Kashyap & Bojanic, 2000). Surely, this needs to be included in the model, the variable will be called: Elasticity of demand of individual customer. Elasticity

of demand depends on a couple of factors: Availability of substitute goods, breadth of definition of a good, percentage of income, necessity, duration, brand loyalty and the question of "who pays?". The second independent variable is called "Lateral consumer relationship". Price perception is a comparative process (Monroe and Petroshius, 1981). By comparing the price she/he paid with the price others paid for an identical product or service, a consumer perceives price fairness or unfairness (Lee and Illia, 2011), another study showed that under a given price discrepancy between two transactions, a high degree of similarity leads to a high perception unfairness (Xia, Monroe and Cox, 2004). Another study addressing lateral consumer relationship is conducted by Feinberg et al. (2002), who found that perceived fairness is affected not just by prices the consumers themselves are offered but also by prices available to others. Lastly, Haws and Bearden (2006) also found that differences between consumers resulted in the greatest perceptions of unfairness. The last variable is illusion of control. : Illusion of control makes people illusively perceive that they could have better control in their decision making by using the system (Lee & Illia, 2011). Vaidyanathan and Aggarwal (2003) stated that controllability in pricing is a significant factor that affects consumers' perception of a fair price. Previous studies addressing the relationship between illusion of control and perceived price fairness point out that consumers perceive more fairness when they think they have more chances to affect the pricing decision (Thibaut and Walker, 1975), while they perceive unfairness when sellers control the price. For example, consumers buying tickets relatively close to the departure date and paying a higher price, when under the realization of the Advance-Purchase Discount perceive the price as less unfair, because they are aware that they could have bought ticket for a reduced price by purchasing the ticket earlier.



Model of Perceived Price Fairness

5. CONCLUSION

In this paper a number of price discriminatory tools and YM have been discussed. An extended literature review was to basis of the model presented in the previous section. In this model airliner's pricing strategies and YM were found to have a negative effect on perceived price fairness. A number of extraneous variables were found to have an influence on the relationship between the independent (perceived price fairness) and the independent variables (YM and Price Strategies), namely: elasticity of demand, lateral consumer relationship and illusion of control. Firstly, customers perceive the price as less unfair if they have an inelastic/less elastic demand. For that reason, business travelers are more likely to perceive a price as less unfair than a leisure traveler. Secondly, if costumers have a high illusion of control, it is more likely they perceive the price as less unfair. Knowingly of the pricing strategies, customers feel their actions could have shaped the outcome (price) differently. Thirdly, when costumers compare prices to fellow passengers and detect a dispersion in price for a product they perceive the same they are more likely to perceive the price as unfair. As confirmed by a research from Xia et al. (2004), where, as stated earlier, a perceived price difference between two transactions with a high degree of similarity leads to a higher perception of price unfairness. These results could be processed in a survey to have a practical confirmation of the presented theory. In the future this model can be complemented by a research into the effects of perceived price fairness, which could lead to insights into the long- and short-term effects of employing pricing strategies that are perceived as fair or unfair.

6. LIMITATIONS & FUTURE RESEARCH

A very apparent limitation of this paper is the lack of a qualitative or quantitative research. Future researchers could use the proposed model from the previous section as a basis for a qualitative or quantitative study to investigate the validity and reliability of the model. A survey addressing different segments of airline travelers could be employed to inquire them about their perception of price fairness in the airline sector. It is important that the survey addresses all pricing strategies separately and makes a clear distinction between them. Also, it is important to have include the extraneous variables: what is their profession? For which purposes do they fly? Thus, is the influence of the extraneous variables significant? Moreover, behavioral effects of perceived price fairness could be researched to investigate the effects of YM and price discriminatory tools on the short- and long term, as McCaskey (1998) conclude that short-term profit growth could damage relationships with customers because companies do not pay attention to the status of a customers. Possible topics to research are the effects of perceived price fairness on loyalty, repurchase intentions, switching behaviours, complaints and word-of-mouth. Lastly, are there more moderating variables that influence the relationship between price discriminatory tools and perceived price fairness? This interesting topic should research the fact that airliner's customers seem to accept most practices of price discrimination and YM. Kimes (1994) stated that as yield management practices become accepted by costumers, it is more likely they are being perceived as fair. And, in line with research from Kachelmeier et al. (1991) perceived unfairness of a price or procedure may decline over time. If true, how long would it take before customers perceive a price as fair, which was previously perceived as unfair?

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