

The Impact of Yield Management in the Airline Industry on Customers' Feelings of Price Fairness

What are the Impacts of Yield Management in the Airline Industry on Customers Feelings of Price Fairness and how does it Affect Customer Loyalty?

The practice of Yield management has been widely adopted by service organizations in the past three decades. Yield management originally started in the airline industry and this capacity management strategy is also most often applied by airlines. The practice of yield management, especially in the airline industry, has been discussed in many different studies. There is, however, limited empirical research on the effects on business-to-business relationships and knowledge on how the feelings of price fairness affect loyalty. This research paper will discuss the differences in perception and reactions of both business and leisure travelers. The main goal of this research is to give answers to the question: What are the impacts of yield management in the airline industry on customers feelings of price fairness and how does it affect loyalty?

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THEORETICAL FRAMEWORK

Yield Management

There is a number of varying definitions of yield management used in academic research for different service industries. Wang and Bowie (2007) used the most comprehensive description: "The main target is to maximize revenue through the effective management of three main areas: pricing strategy, inventory control and control of availability. The terms yield management and revenue management are currently used synonymously." This definition is also most suitable for the airline industry and will be used in this study. In that case, inventory controls depends on the available resources (employees, aircrafts and gasoline) to provide a specific service. The control of availability is the number of empty seats on board. It is understandable that firms take advantage of yield management practices. Kimes (1997) and Cross (1997) in Wang and Bowie (2007) show that 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. This clearly indicates the usefulness and profitability of yield management strategies. How-

ever, these previous studies paid attention only to revenue growth. This is just an indicator for short term business performance instead of long term customer value, which is a more important factor for future business success.

Jones and Hamilton (1992) in Wang and Bowie (2007), therefore, suggest companies, including airlines, to adopt a "yield culture" in their organization (Wang and Bowie, 2009). Furthermore, they recommend to include managers from all different departments (E.g. Marketing, sales, finance) in a "revenue management forecasting and decision making committee" (Wang and Bowie, 2008, p.35). This is necessary to adapt different points of view in a firm's pricing strategy. The focus of yield management practices should be to earn money immediately and invest in long term relationships. Successful examples of yield man-



agement strategies are usually found in industries where it is possible to manage both capacity and price. The most common examples are the airline-, hotel- and theater industry. E.g. The price of a hotelroom per night depends on the size of the room, number of persons and the number of rooms available.

Van Amsterdam - Schiphol (AMS) naar Aruba							
Om uw vertrekdatum te selecteren, klikt u op een datum op de kalender. Prijzen zijn voor een retourticket voor een volwassene, inclusief belastingen en toeslagen en exclusief 10 euro boekingskosten.							
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	26	27	28	29	30	01	02
						€ 867	€ 810
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€ 1.142	€ 1.085	€ 1.085	€ 985	€ 1.025	€ 1.217	€ 1.158	
17	18	19	20	21	22	23	
€ 1.169	€ 1.110	€ 1.150	€ 1.190	€ 1.567	€ 1.667	€ 1.650	
24	25	26	27	28	29	30	
€ 1.567	€ 1.190	€ 1.250	€ 950	€ 950	€ 1.042	€ 1.025	
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Geen vluchten beschikbaar							
■ Laagste beschikbare prijs op deze kalender							

KLM Price Calendar 9 July 2012 for flights between Amsterdam and Aruba in December 2012

Besides the positive effects of yield management, there are also some drawbacks. When customers recognize company's revenue practices, they may feel that the company's behavior seeks revenue gains instead of developing their relationships with customers. Nobody wants to pay a higher price than necessary. 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. Key-accounts may feel treated unfairly when individual travelers get the same, or even a better, treatment. (Kimes and Wirtz, 2003)

Feelings of Price Fairness

Xia et al. (2004) conducted a detailed research on a conceptual framework of price fairness perceptions. They used a general definition of fairness that was defined as „a judgment of whether an outcome and/or the process to reach an outcome are reasonable, acceptable or just“ (Xia et al, p.1).

It is necessary to provide clarifications on the price fairness as a construct in this research. First, price fairness and price unfairness are probably constructs with different antecedents. Second, all price evaluations are comparative. Buyers can make comparisons with the price a company charged for other customers or they may compare the prices with the prices charged by other organizations or groups. The feelings of price fairness will be influenced by information symmetry and transparency. If the company can explain the difference in prices, it is less difficult to be accepted by the customer. Third, all price judgments are subjective. The judgments tend to be biased by self-interest. Consequently, negative perceptions on price unfairness are smaller if the inequality is to the buyers' advantage than the other way around. (Xia et al., 2004; Ordenez, 2000)

Customers always look for the best price quality ratio in competitive markets. Perceptions of price unfairness may lead to negative consequences for the seller. Customers could take actions such as terminating the relationship, spreading negative

word of mouth or taking revenge by trying to damage the company. All in all, it is important that a consumer does not realize how a price is established. However, a certain level of transparency should be needed.

✦ H1: The lower the score on perceived yield management, the higher the feelings of price fairness

Travel Purpose

This research will investigate the differences between leisure and business travelers. Dagger and O'Brien (2010) assume in their study that there is likely a difference between novice and experienced customers. For example, the benefits they seek from a relationship and their loyalty decision may differ significantly. In this study the assumption is made that leisure travelers can be considered as novice customers and business travelers as experienced customers. This is not true in all cases. However, the reason that this assumption is taken, when someone is travelling for his work it probably means that a company have international relationships and employees are travelling more often. As a result they become more familiar and experienced with the services an airline has to offer. Both business and leisure travelers infer price, quality and value in a different way. According to Vantrappen (1992) in Kashyap and Bojanic (2000), managers must pay attention to this judgment process in order to understand travelers' comparative ratings. This provides the basis for formulating different communications strategies for different types of customers. For leisure travelers an airplane is probably just a way to get from A to B. Business travelers could have additional needs such as a comfortable working space.

Kashyap and Bojanic (2000) concluded that the quality of staff and services for leisure travelers does not influence overall value perceptions in the hotel industry. The reason for that is probably that leisure travelers are less interested in specific services or staff performance. They pay more attention to the state of the room and the price paid for perceived quality when assessing the their stay.



Fairness

The reason for this is that leisure and business segments attach different degrees of importance to various facets of quality and price. Business travelers have much higher requirements. Xia et al(2004), Dagger and O'Brien (2010) and Kashyap and Bojanic (2000) state that the judgment of price fairness is based on experiences, specific needs and the frequency of using a service. Business travelers may travel very often and want an equal treatment.

✦ H2: The strength of the relationship between perceived yield management and price fairness perceptions will be stronger for business travelers than for leisure travelers.

Customer Loyalty

Due to the fact that loyalty is a wide concept it was necessary to come up with a useful definition. Dagger and O'Brien (2010) defined a loyal customer as the "one who holds a favorable attitude toward the service provider, recommends the service

provider to other consumers and exhibits repurchase behavior. Customer loyalty is important primarily because of its positive impact on sales, share of wallet, and customer retention” (Dagger and O’Brien, 2010, p.1535). In the study of Liu (2007) customer loyalty is defined as a commitment to rebuy a service consistently in the future. In the airline industry, the repurchase behavior is the most important part of customer loyalty and most airlines try to achieve this by offering special loyalty programs. Johnson et al (2006) concludes that the personal relationship between a customer and company became so important that it must be managed effectively through a company’s customer relationship management (CRM).

Customer loyalty might be seen as an effect of customer satisfaction. Anderson et al.(2004) searched already for associations between satisfaction and loyalty. They summarized four important findings. First, if consumers perceive prices as fair over quality of service and they trust the organization, these will have positive impact on retention. The strength of this correlation can be different between industries. Second, customers satisfaction may result in cross-buying. This is in less important the airline industry and will, therefore, be omitted in the further analysis. Third, satisfied customers will recommend the company by spreading positive worth of mouth. Finally, customer satisfaction may enable the firm to charge higher prices.

Dowling(2002) in Liu (2007) find that the use of loyalty programs is a hype and definitely not cost effective. On the other hand, Lewis(2004) and Verhoef (2003) in Liu(2007) show that loyalty programs have a significant positive impact on retention and price fairness perceptions, especially in the airline industry. Morrison and Huppertz(2010) in their study clearly described the acceptance of loyalty programs in this industry and the effect on various segments of customers. Since customers accept price injustice in their advantage, we expect that loyalty programs will decrease the feelings of price unfairness because of the discount customers get. (Xia et al, 2005, Bell et al 2005)

✦ H3: The strength of the relationship between perceived yield management and price fairness perceptions are higher when airlines offer loyalty programs.

Customer loyalty is defined as a commitment to rebuy a service consistently in the future because of favorable attitudes towards the service provider (Liu 2007, Dagger and O’Brien 2010). Trust in the service provider develops over time and it is often based on several transactions in the past. Large price differences have negative impact on trust (Dagger and O’Brien, 2010).

Figure 1: Conceptual model



Chandrahekaren et al. (2007) noticed that any increase in the level of justice will increase customers feeling of satisfaction. Customers with a prior positive experience, e.g. paying a good price, are likely to have a positive attitude towards the company and are significantly more loyal.



Loyalty Programs: Frequent Flyer Cards

✦ H4: The greater the feelings of price fairness, the higher the loyalty towards airlines

A fifth hypothesis is added to see if the model used in this research is correct and whether the perceived yield management practices have no direct influence on airline loyalty. Selmi (2010) concluded that all customers complains about yield management practices by customers affect the feeling of price fairness feelings and do not influence directly the airline loyalty intentions.

✦ H5: The relationship between perceived yield management and airline loyalty is completely mediated by price fairness feelings

Conceptual Model

METHODOLOGY

Sample and Measurements

A questionnaire is used to get answers to the main question in this study. The survey is held among both leisure and business travelers in the Netherlands. The respondents have filled out this questionnaire in a short period of time. The data collected is valid for a specific point in time, and is not appropriate for longitudinal conclusions. Over the period of few days, a total of 149 respondents filled in the survey in the Dutch language version. In total, 11 respondents with missing values were deleted form

the dataset. The remaining respondents in the dataset constituted 46 business travelers and 92 leisure travelers. The data was collected through online social media groups, such as LinkedIn, Facebook and Twitter. The selection of this method was done in view of the high response rate and a possibility to gather answers in a short period of time. Business travelers were found mostly by LinkedIn groups while leisure travelers by Facebook. 72,5% of the respondents were male, 69,9% was below the age of 29 and 63,8% of the people booked the flights themselves.

All scale-items that are used in this survey are based on scale items in previous research.

Regression

The conceptual model in this study can be divided in two different models. The first model will test hypothesis 1,2 and 3. The second model will test hypothesis 4 and 5. It is not possible to test the whole conceptual model at one time because both moderators and mediators are included.

The regression results summary (table 1) shows that 27.9% of price fairness can be explained by the level of perceived yield management. The adjusted R-square, which is a better estimate of the population is lower and it is at the level of 25,1%. This means that 25.1% of price fairness is predicted by the independent variable “perceived yield management”. Furthermore, it is striking that just 3,9% of loyalty to the airline is explained by price fairness feelings. It can be concluded that price fairness is not a good predictor of airline loyalty in this study. This is an interesting topic for further research. It would be surprising if price had that little influence on loyalty intentions.

Model	R Square	Adjusted R Square	std. error of the estimate
1	0.279	0.251	0.74574
2	0,039	0.032	1,14760

Table 1: Regression Model 1 and 2 Summary

The Anova output (table 2) shows that the two models are significant.

Model		Sum of squares	df	Mean Square	F	Sig
1	Regression	28.334	5	5.667	10.190	0.000
	Residual	73.409	132	.556		
	Total	101.743	137			
Model		Sum of squares	df	Mean Square	F	Sig
2	Regression	7,252	1	7,252	5,507	0,020
	Residual	179,109	136	1,317		
	Total	186.361	137			

Table 2: Anova Outputs Model 1 and 2

Table 3 shows that „perceived yield management“ has the strongest influence on the price fairness perceptions. In other words, when someone perceives that a airline is using a yield management system it will influence the price perceptions but not the loyalty intentions.

Furthermore, it is also notable that „travel purpose“ do not have a significant relationship (p=0.641). The interaction component is significant (p=0.048). This means that there is a moderating

effect of travel purpose on the relationship between „perceived yield management“ and „price fairness“. The participation in loyalty programs does not have a significant influence on price Fairness (p=0.290). The moderating effect is not significant either (p=0.588). This would imply that loyalty programs in the airline industry do not have any influence on price perceptions. This is an interesting topic for further research.

Independent var.	Unstandardized	Standardized	sig
	Coefficients B	Coefficients beta	
(Constant)	4.015		0.000
Perceived YM (PYM)	.443	.448	0.000
Travelpurpose (TP)	-.072	-.040	0.641
PYM*TP	.362	.190	0.048
Loyaltyprograms (LP)	.192	.090	0.290
PYM*LP	.110	.052	0.588

* dependent variable: Price Fairness

Table 3: Coefficients Multiple Regression Model 1

Model 2 shows that price fairness has a positive significant effect on loyalty to the airline. (p=0.020).

Independent var.	Unstandardized	Standardized	sig
	Coefficients B	Coefficients beta	
(Constant)	4,774		,000
Price Fairness	,267	,197	,020

*dependent variable: Loyalty to the Airline

Table 4: Coefficients Multiple Regression Model 2

Because of the fact that both models are significant it is possible to fill in a final regression model with all corresponding beta-values.

Final regression models

Price Fairness =

$$4.015 + (0,443*PerceivedYM) - (0,072*travelpurpose) + (0,362*PerceivedYM*TP) + (0,192*loyaltyprograms) + (0,110*PerceivedYM*LP) + \epsilon$$

Loyalty to the airline =

$$4,774 + (0,267*PriceFairness)$$

Results

H1: The lower the score on perceived yield management, the higher the feelings of price fairness	Significant
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Table 3 shows that „perceived yield management“ has the strongest influence on price fairness perceptions in contrary with the dummy variables. This positive effect has a standardized beta value of .448 in a sig = .000 and this effect is the same without the moderating effects. As a result of the analysis the hypothesis was proven. Customers consider a price as unfair when they recognize that the company is using a price strategy to get more profit instead of carrying relationships with customers.



Aircraft seats to be sold at variable yields. Photo courtesy of Air France -KLM.

H2: The strength of the relationship between perceived yield management and price fairness perceptions stronger for business travelers than for leisure travelers.	Partially significant
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As shown in table 3, it is notable that the variable „travel purpose“ is not significant ($p=0.641$). The interaction component, however, is significant ($p=0.048$). This means that there is a moderating effect of travel purpose on the relationship between „perceived yield management“ and „price fairness“. Subsequently, the ANOVA analysis is used to test the direction of this dummy variable. Generally, people who are flying for business purposes have the highest score on price fairness ($M=4,1250$). Leisure travelers indicate a price in general as less fair ($M=3,9484$) but this mean difference is also not significant (table 5). Although this hypothesis is just partially significant, it is noticeable that leisure travelers indicate the price as less fair compared to business travelers. The theory supposed that this effect was the other way around because of the fact that business travelers have often higher demands.

Source	df	Mean Square	F	Sig.
Corrected Model	3	,552	,740	,530
Intercept	1	1012,760	1355,940	,000
travel purpose	1	,053	,070	,791
loyaltyprograms	1	,698	,935	,335
travel purpose * loyaltyprograms	1	,059	,080	,778
Error	134	,747		
Total	138			
Corrected Total	137			

Table 5: Test of Between-Subjects Effects

H3: The strength of the relationship between perceived yield management and price fairness perceptions is higher when airlines offer loyalty programs.	Not significant
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As presented in table 3, the participation in loyalty programs does not have a significant influence on price fairness ($p=0.290$).

Additionally, the moderating effect is not significant ($p=0.588$). The Anova test is, therefore, superfluous. Furthermore, the Anova test in this case shows that there is no difference between subjects at all. (table 16).

H4: The greater the feelings of price fairness, the higher the loyalty towards airlines	Significant
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This hypotheses is tested in model 3 (table 4). This model is significant ($p=.000$) but it explains only 3,9% of the variance of loyalty towards airlines. Although the model appears to be significant, price fairness turns out not to be a proper predictor for the airline loyalty.

H5: The relationship between perceived yield management and airline loyalty will be completely mediated by price fairness feelings	Significant
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A partial regression model is used to test the hypothesis no 5. It clearly shows that the „perceived yield management“ has no significant effect on loyalty to the airline ($p=.557$). On the other hand, it shows that „perceived yield management“ has influence on the perceptions of price fairness. In the last step, where „perceived yield management“ and price fairness are tested in the same model, there is still no influence of „perceived yield management“ on loyalty to the airline ($p=.545$). This means that the influence from Perceived Yield management on loyalty to the airline is completely caused by price fairness. ($p=.020$).

Discussion

One of the biggest threats for companies which adopt a yield pricing strategy is that customers recognize this as evidence of firms behavior to seek for revenue benefits instead of developing their relationship with customers (Wang and Bowie, 2009). The results of this study are in line with the existing literature in this respect. There is a significant relationship between the perception of yield management strategies and the feelings of price fairness (hypothesis 1). However, the results of this study show that customers are still loyal to the airline even when they indicate the price as unfair (hypothesis 4). Perhaps there are other

factors that influence airline loyalty, such as competition, differences of loyalty programs, types of destination and reasons for travelling. These factors are not included in this study and therefore this could be an interesting topic for further research. Only 3,9% of loyalty to the airline is explained by price fairness feelings in the present study. It can be concluded, based on the study results, that price fairness is not good predictor of the airline loyalty.

The intention of this research was to find a difference in price perception by leisure and business travelers. Dagger and O'Brien (2010) and Kashyap and Bojanic(2000) described this difference already in earlier research. Unfortunately, only the moderating effect of travel purpose was significant but the mean difference was not significant. Furthermore, it can be concluded that loyalty programs have no effect on the relationship between perceived yield management and price fairness. Due to the fact that only few of the respondents who filled in the questionnaire participate in airline loyalty programs, it is not possible to draw conclusions on the airline loyalty.

What are the impacts of yield management in the airline industry on customers feelings of price fairness and how does it affect customer loyalty?

First, as expected, customers consider a price as unfair when they recognize that the company is using a price strategy to get more profit instead of carrying relationships with customers. Second, the practice of yield management have a more negative effect on leisure travelers than business travelers. Business travelers are clearly less price sensitive. Third, price fairness turns out not to be a proper predictor for airline loyalty. In general, customers determine their loyalty decisions on different factors. Four, the negative influence of perceived yield management on loyalty is fully mediated by price fairness.

About the Author

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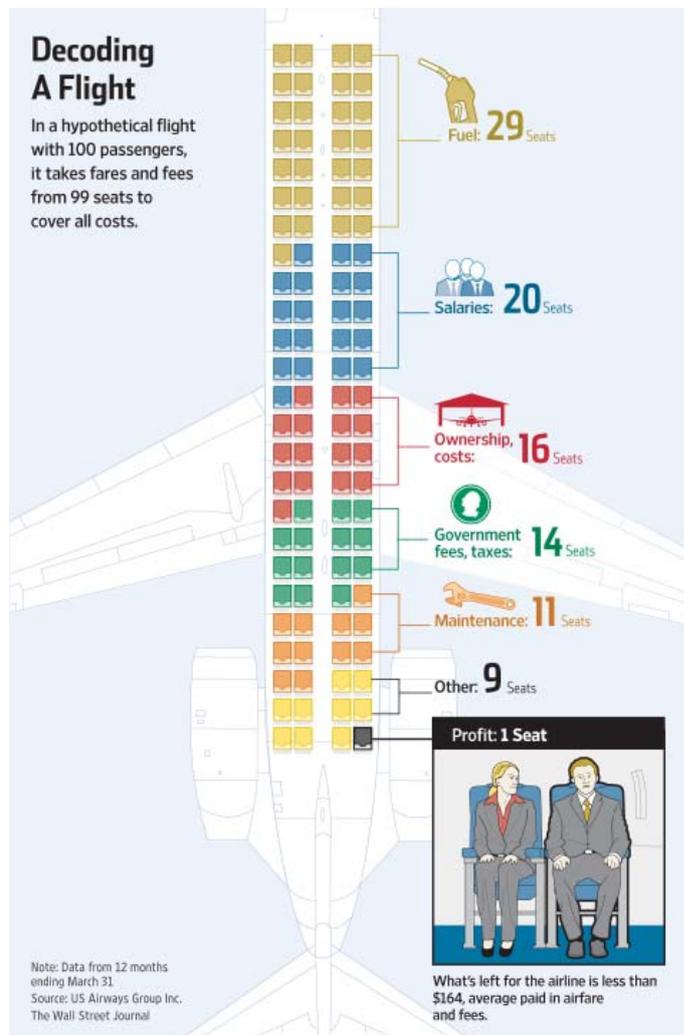
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Airline Expenses, hypothetical flight according to US Airways Source: Wall Street Journal, The Middle Seat (Column) by Scott McCartney: How Airlines Spend Your Airfare, June 6, 2012

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