





A case study of pricing strategies in European airline markets: The London – Amsterdam route

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Abstract

Published fares London–Amsterdam are used to examine the pricing practices of low-cost and legacy carriers when operating in a large and crowded market. We investigate two strategies of market segmentation involving the time before departure the ticket has been bought, inter-temporal segmentation, and the duration of the stay, implicit segmentation. We find inter-temporal price discrimination emerges as an important strategy for all pricing but the two legacy carriers involved, British Airways and KLM, differ in their use of stay restrictions; British Airways does not assign a specific role to the duration of stay, while KLM make use of such rules extensively in price setting.

Highlights

► Published fares London–Amsterdam are used to examine the pricing practices of low-cost and legacy carriers when operating in a large and crowded market. ► Considering fare discrimination by when a ticket is purchased and by the conditions attached to a ticket, inter-temporal price discrimination emerges as an important strategy for pricing by all airlines but there are differences in the use of length of stay restrictions between low cost and legacy carriers. ► The details of restrictions used by legacy carriers vary between them, e.g. British Airways does not assign a specific role to the duration of stay, while KLM make use of such rules extensively.

Introduction

The success of some low-cost carriers in expanding their market shares has forced legacy carriers to revise their traditional strategies and, in some cases, to reconsider their business models. Low-cost and legacy carriers do business in a substantively different way not only in their network organization, but also in their commercial strategy and pricing practices. Concerning the latter, empirical work on carriers' pricing behavior has focused on conspicuous price dispersion recorded in air travel markets and its relation to market structures.¹

There is significant evidence concerning the advantages for airlines of pricing to reflect consumer heterogeneity. To reap these, most carriers' focus on two strategies of segmentation involving the time before departure the ticket is bought/booked, inter-temporal segmentation, and the duration of the stay, implicit segmentation (Alderighi, 2010a). Low-cost carriers, because they mainly sell each leg independently, generally base their pricing strategy only on inter-temporal segmentation, while legacy carriers use more complex rules seeking to exploit both forms of segmentation.

Because 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. Because of the ready availability of data on posted prices, especially for low-cost carriers, the temporal form of discrimination has been extensively examined. Work by Giaume and Guillou, 2004, Piga and Bachis, 2007, Gaggero and Piga, 2010, and others provide robust evidence that fare paths are generally sloping upward over time, especially in the last 20–30 days before flight departure.

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. By restricting the access to cheaper fares only to long-staying travelers, it is possible to simultaneously charge two fare profiles for the same flights. A necessary condition to implement this pricing strategy is the use of round-trip tickets.²

This second type of discrimination has been little explored (Borenstein and Rose, 1994). Stavins (2001), however, showed that Saturday-night stay-over and advance-purchase requirements have a significant impact on prices while Puller et al. (2009) found that minimum and maximum stay restrictions play an important role in revenue generation. Escobari and Jindapon (2008) also found robust evidence that refundable ticket prices are significantly higher than non-refundable ones, which partially supports implicit segmentation (business travelers buy refundable tickets while leisure travelers tend to buy non-refund) because refundability can be also interpreted as an alternative way to implement inter-temporal segmentation.

The interest here is on whether there are substantial differences between low-cost and legacy carriers in their segmentation strategies, and on the respective merits of the various segmentation approaches in very competitive market situations.

To shed some light on these questions, a case study is conducted on the route linking London and Amsterdam between 1st and 15th March, 2009. This is one of the most important routes in Europe which, being insulated from competition from other transportation modes, features a high degree of intra-modal competition. It is supplied by a mix of low-cost and legacy carriers and used by business and leisure travelers. Two different typologies of tickets are considered: round-trip tickets corresponding to one-day stays and round-trip tickets corresponding to one-week stays.

Section snippets

Research design and data

The market share of low-cost carriers in Europe reached 19.5% of flights in May 2007 (Eurocontrol, 2007). In the first 6 months of 2007, the share of these carriers was 2.5% points higher than in the first six months of 2006. In the list of top ten airports ranked according to the number of low-cost arrivals during the first six months of 2007, the first three, Stansted, Luton and Gatwick, are located in the London area followed by

Amsterdam and Barcelona, and then others such as Dublin,...

Analysis

Empirical evidence suggests that low-cost pricing behavior is based on one-segment itineraries. A traveler pays exactly the same amount for buying a round-trip ticket, or a pair of one-way tickets for the same times, dates and itineraries. Although for commercial reasons low-cost carriers do not reveal their pricing rules, the fare (*fare*) on route *i* can reasonably be assumed to be a function of the number of days before the flight (*dbf*), the carrier's seats available and other carrier...

Results

To estimate the pricing rule presented in equation (5), various specifications are considered. The major differences among the nine models in Table 3, Table 4, Table 5 concern the use of controls and the choice of combinations of the *dbr* and *stay* variables, to limit the multi-collinearity issue, since $stay = dbr - dbd$, while, at the same time, accounting for use of length of stay by legacy carriers to segment among passenger types. The resulting empirical model is: $\log(fare_{crdf}) = \gamma_0 + \gamma_c + \beta_1 dbd30_{crdf} \dots$

Concluding remarks

It emerges that inter-temporal price discrimination is a prominent feature of airline pricing strategies, given that average fares increase by about 3% each day as departure approaches, with a cumulative 80% increase in the last 20 days. Regarding KLM and British Airways there are significant differences in their pricing behavior; KLM uses both the booking time before departure and the minimum stay as a discriminating device, whereas British Airways focuses on inter-temporal price...

Acknowledgment

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2021, Journal of King Saud University - Computer and Information Sciences

Citation Excerpt :

...However, they do not discuss the different kinds of prediction methods that are utilized to implement dynamic pricing. A significant number of research works exists that proposed prediction models for dynamic pricing in airlines which can be classified into two groups: demand prediction (Bo An et al., 2016; Bo An et al., 2017; Chieh-Hua Wen and Po-Hung Chen, 2017; Diego Escobari, 2014; H. Yuan et al., 2014; Jie Liu et al., 2017a,b; Mumbower et al., 2014) and price discrimination (Efthymios Constantinides and Rasha HJ Dierckx, 2014; Mantin Benny and Bonwoo Koo, 2010; Marco Alderighi et al., 2011; Steven L.Puller and Lisa M.Taylor, 2012). Early prediction of the demand along a given route could help an airline company preplan the flights and determine appropriate pricing for the route....

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2019, Journal of Rail Transport Planning and Management

Citation Excerpt :

...Aim of this section is to understand when and on which kind of routes. Most of dynamic pricing approaches (or revenue management) in rail industry derive from the experience of low-cost airlines, where they are adopted since many years (Alderighi et al., 2011; Piga et al., 2015). In rail, typically, companies set functions – different for routes and periods – that vary prices according to the number of remaining seats of a class, according to the rate of purchases that they expect (Abrate et al., 2016)....

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Citation Excerpt :

...Hazledine (2011) documented the response of traditional airlines to low cost entries, including pricing. Malighetti et al. (2009) and Alderighi et al. (2011) studied more in depth the strategy of inter-temporal price discrimination for some airlines on selected routes. Actually, variation of fares is not the only reaction of the incumbent, and this can be better seen in intermodal competition, typically when a new HS line is opened....

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Citation Excerpt :

...Corresponding to those average unit prices, the 5-seat percentage quantity discount decreases from 17% (€9.95) at 45 days before departure to 8% (€7.76) on the day before departure. We rely on previous literature (Alderighi et al., 2011; Bergantino and Capozza, 2015; Giaume and Guillou, 2004; Malighetti et al., 2009, 2010, 2015; Moreno-Izquierdo et al., 2015; Stavins, 2001) to select the following potential time-variant and time-invariant determinants of quantity discounts. Five dummy variables that identify the number of available seats on the flight at the time of the reservation....

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