



Discussion paper

Are all online hotel prices created dynamic? An empirical assessment



Giuseppe Melis, Claudio A. Piga*

Department of Economics and Business, University of Cagliari, Viale Sant'Ignazio, 09123, Cagliari, Italy
 Keele Management School, Keele University, Keele, Staffordshire, ST5 5BG, United Kingdom

ARTICLE INFO

Keywords:

Revenue management
 Online travel agents
 Dynamic pricing

ABSTRACT

Understanding how tourist firms set their online prices is important given their growing reliance on Online Travel Agencies (OTA). The article investigates whether the narrative of a pervasive presence of dynamic pricing provides a realistic description of hotels' online pricing behavior and thus challenges the view that dynamic pricing should be considered the prevailing norm for the industry. The evidence suggests a heterogeneous attitude across hotels, with uniform pricing being more widespread in most hotels of our sample, namely, the 3-star or less, while dynamic pricing is more likely applied in higher quality hotels.

1. Introduction

Online Travel Agents (OTAs) have become a key distribution channel for many hospitality firms; nonetheless, very little is known about the way such firms set and manage their prices on the OTAs' platforms. From a firm's perspective, a platform enhances price transparency and lowers menu costs, i.e., the cost incurred by a firm when it modifies its price, thereby contributing to the creation of a frictionless market (Bryniolfsson and Smith, 2000). From an economic perspective, companies that use OTAs as distribution channels must set their prices in a context where competition is intensified on both the supply side (more firms against which to compete) and on the demand side, with consumers better informed and potentially capable to choose among alternative destinations located afar from each other (Andrés-Martínez et al., 2014: 172).

Prima facie, both perspectives call for a somewhat sophisticated pricing approach enabling firms to adapt to the varying market conditions that prevail on the platform. Indeed, as Noone and Mattila (2009: 272) observe "... the growth of the Internet as a channel of distribution has significantly increased customer exposure to revenue management pricing practices". This work aims to better qualify such a statement by investigating whether the propensity to apply such techniques is widespread in the universe of firms, or is instead largely heterogeneous and thus can be related to specific firms and market attributes (Dolnicar and Ring, 2014).

Revenue Management (RM) denotes a broad set of price-setting techniques that are profitably used by such companies as airlines, hotels, cruise shipping (Kimes, 1989). The academic literature has mostly focused on the theoretical reasons why the adoption of RM manifest

itself in price variation over time (Talluri and van Ryzin, 2004). The empirical studies based on the airline industry robustly support the notion of an intense intertemporal dynamism in the fares set by both low-cost carriers (Alderighi et al., 2016) and full-service carriers (Bilotkach et al., 2010). In hotel markets, intertemporal pricing also represents an empirical regularity, although little attention has been given to whether it characterizes the price setting behavior of all the firms in the sample (Abrate et al., 2012; Fleischer, 2012). An exception in the literature is Abrate and Viglia (2016), whose approach, which explicitly controls for the presence of heterogeneous behavior in the use of intertemporal pricing across hotel operators, is in line with the findings from a survey carried out by the Global Business Travel Association (GBTA) in 2014, where it emerged that although 75% of the respondents declared to be aware of the possibility to use Dynamic Pricing (DP) to manage their hotel rates, only 22% made active use of it (GBTA, 2014). Such evidence casts doubts on whether a generalized definition of RM as a system aimed at increasing "revenue per transaction through systematic and continuous manipulation of rates", as found for example in Solnet et al. (2016: 120), can describe adequately the price setting behavior of hospitality firms in general, and of those selling via an OTA in particular.

Indeed, there is a growing literature focusing on the relative merits of uniform pricing. Constant manipulation of rates may lead either to discounts that reduce the reference price that customers are willing to pay for the service (Viglia et al., 2016) or to price hikes that can be perceived as unfair (Orbach and Einav, 2007). Ultimately, the tension between dynamic and uniform pricing can only be resolved via an empirical examination of their relative presence.

To assess the extent by which DP is applied in a wide sample of

* corresponding author.

E-mail addresses: gemelis@unica.it (G. Melis), c.piga@keele.ac.uk (C.A. Piga).

online hotels in four large Mediterranean macro-destinations, this study tests whether the use of an online platform is, as often stated in the literature and the media, accompanied by a frequent change in a hotel room's posted price. Furthermore, it empirically investigates whether the intertemporal pricing behaviour of hospitality firms operating on an OTA is, when present, more prevalent in some clusters of firms. To strengthen the robustness of the analysis, this study is based on a sample period covering two consecutive Summer seasons (2014 and 2015) and finds similar results in both years; it thus complements other studies focussing on the estimation of the hedonic value of certain sites and establishment's characteristics in similar geographic areas with a predominant share of leisure customers (Fleischer A., 2012.; Rigall-I-Torrent et al., 2011 Rigall-I-Torrent et al., 2011)

2. Literature review and main research questions

The existing literature has highlighted a set of major drivers that are expected to enhance or hinder price variation over time in travel and tourism markets (Chen and Schwartz, 2008; Mauri, 2012). We will consider them in the two subsequent subsections.

2.1. Factors expected to boost dynamic pricing

Intertemporal price variation can be revealed by either upward or downward price adjustments during the booking period preceding the date of the service's consumption. We therefore consider those factors that are expected to lead to, respectively, price increases and decreases.

First, because consumers may be heterogeneous along such relevant dimensions as their willingness to pay for the service or the uncertainty on whether they need to travel, firms may want to segment the market and price discriminate the business travellers' segment from other lower demand travellers, e.g., those travelling for leisure or for visiting friends and family. The temporal effect arises because business-people are more likely to discover whether they need to travel only a few days before the consumption date and their choice of travelling dates is therefore very inflexible; therefore, it should be expected that the prices increase a few days before the day of travel (Alderighi et al., 2016).

Abrate et al. (2012) study whether the temporal structure of hotel prices depends on the composition of customers' type, defined by the motivation of stay, that is, leisure vs. business. They argue that on weekdays the hotels serve a larger proportion of business customers, while on weekends hotels serve predominantly leisure ones. Based on the price of a single room posted online between three months and one day before the stay by about 1000 hotels in eight European capitals, their evidence reveals that over 90% of prices changed during the period, and that the intertemporal price profile varies depending mainly on the mix of customers the hotels anticipate they will be serving.

Second, firms may respond to the online presence of strategic customers, i.e., those who may postpone the purchase in anticipation of last-minute discounts, by committing to raise prices over time to discourage such behaviour (Li et al., 2014). Such a strategy may nonetheless be compatible with price reductions, if these occur randomly and do not disrupt the overall increasing temporal trend of prices (Sweeting, 2012).

Thirdly, "inventory control" is a central aspect of RM in airline markets. It consists in *i*) setting ticket classes, i.e., fare levels and associated restrictions (refundability, advance purchase, business vs. economy) and *ii*) defining the number of seats available at each fare. The equivalent in hotel markets would be, assuming identical room characteristics, deciding *i*) the relevant booking classes and *ii*) the number of rooms to sell in each class. Dana (1999) demonstrates that it is optimal for firms to divide their capacity into "buckets", each characterised by a varying number of seats or rooms and by a monotonically increasing price level. The units in a bucket are all sold at the same price, and once they sell out, the price moves automatically upwards to

the next bucket's price level. Alderighi et al. (2016) test the implications of Dana's model for the case of the airline industry; they find that the fare goes up as the plane fills up. The findings in Alderighi et al. (2016) suggest that having information on the load factor of an aircraft or hotel at the time a price is posted, is necessary to disentangle an intertemporal price discrimination motive from cost-based pricing. In this work, we do not have information of the number of rooms available in the hotel at the time a price was posted; this is not a limitation, because both intertemporal price discrimination and cost-based pricing related to inventory control are expected to operate in the same direction to produce a variation in room prices, which is the focus of our empirical strategy.

Prices may be dropped for two main theoretical reasons. One, hotels and airlines offer a highly perishable product. Because an unsold seat or room carries no value for the firm, there is a strong incentive to lower prices, which are therefore expected to fall as the consumption date nears (Talluri and van Ryzin, 2004). Two, a price reduction is the simplest method to stimulate a sluggish demand. To reduce learning effects that enhance strategic behaviour by consumers, the literature has revealed that European low-cost airlines offer secret discounts (Bachis and Piga, 2011) or generally apply price reductions randomly to reduce their predictability and enhance a flight's load factor (Bilotkach et al., 2014).

2.2. Reasons favouring uniform pricing

There are both cost-based and strategic reasons why firms may choose a uniform pricing approach. Zbaracki et al. (2004) show that, for the case of industrial products and services, managerial and customer costs to change prices are relevant. Among managerial costs they include those related to the managers' effort to gather the information, those associated to the time and attention to make the decision and, finally, the communication costs inside the firm, to explain the logic of the change. Customer costs include those incurred to inform customers. Their estimates indicate managerial costs are more than 6 times, and customer costs are more than 20 times, the simple cost of changing nominal prices, the so called "menu costs" (Brynjolfsson and Smith, 2000).

As far as the strategic reasons favouring a uniform pricing approach are concerned, perceived (un)fairness, uninformed customers and demand uncertainty are often cited factors (Orbach and Einav, 2007).

The (un)fairness of a price is a very controversial issue for several reasons but above all because the perception of (un)fairness of a price is always a matter of judgment that depends on such factors as the context of past purchases, product knowledge and brand communication strategies both formal (advertising) and informal (word of mouth, online reviews). Thus, the decision to purchase is not only based on the price quoted by the company, but on its comparison with the customer's singular idea of the current price (Kotler et al., 2015). Specifically, posted price's unfairness (or attractiveness) may arise from its relative evaluation with a regular price, a reference, or a standard (Nieto-García et al., 2017). Viglia et al. (2016) distinguish between memory-based reference prices, those associated with past purchasing experience, from stimulus-based ones, which are based on the observation of the current distribution of prices offered by equivalent suppliers of the product/service. They argue that reference prices are a strong element to the moderation of price changes dynamics, and that hotels should be very cautious in lowering their prices, because doing so affects the reference price formation, especially if discounts are offered for longer periods. Furthermore, loyal customers dislike price changes induced by RM more intensely (Sahut et al., 2016).

In the travel and tourism industry, the high variability of prices over time can therefore be perceived as "unfair" by consumers who have paid a higher price than other customers. The perception of price equity/iniquity plays an important role in customer satisfaction and subsequent behavior (Oliver and Swan 1989). If hotel clients perceive

Download English Version:

<https://daneshyari.com/en/article/7419133>

Download Persian Version:

<https://daneshyari.com/article/7419133>

[Daneshyari.com](https://daneshyari.com)