



Customer perspective on overbooking: The failure of customers to enjoy their reserved services, accidental or intended?



Xiaolong Guo ^a, Yufeng Dong ^{b, *}, Liuyi Ling ^a

^a School of Management, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui, 230026, PR China

^b School of Economics and Management, Zhejiang Sci-Tech University, 928 Second Avenue, Xiasha Higher Education Zone, Hangzhou, Zhejiang, 310018, PR China

ARTICLE INFO

Article history:

Received 21 October 2015

Received in revised form

5 January 2016

Accepted 5 January 2016

Available online 5 February 2016

Keywords:

Compensation

Denied service

Overbooking

Reservation

Service provider

ABSTRACT

Overbooking is widely applied in the service industry to hedge against undesirable situations, such as cancellations and no-shows. However, during the implementation of overbooking, service providers may turn down some customers when the number of arrivals exceeds their capacity on the target date. Therefore, this paper examines overbooking from the customers' perspective to offer them a clear perception on the possibility for their reservations to be denied by the service provider. By establishing a Stackelberg model between a service provider and an online travel agency, we explore how optimal overbooking strategy is developed by the service provider. Afterward, by analyzing the obtained optimal overbooking pad, we calculate the probabilities of denied service under different levels of monetary compensation that is paid to denied customers. A higher monetary compensation guarantees a higher chance of successful service. This paper also provides customers with some reference when booking services.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

One of the distinct features of the service industry is the perishability of its products/services (e.g., airline tickets and hotel rooms). Perishable products differ from tangible commodities on five aspects (Rücker, 2012), among which the most typical two are as follows. (i) Perishable products generally have high fixed costs and low variable costs, which considerably boosts the marginal profit per product (Ladany, 1996; Guo et al., 2013b). (ii) Unsold service products have a zero residual value and cannot be kept in inventory for future use (Stolarz, 1994). Consequently, when services are not fully consumed in a certain period, service providers face large revenue losses.

Service providers have adopted various marketing/operations strategies, such as dynamic pricing (Jallat and Ancarani, 2008; Palmer and McMahon-Beattie, 2008), market segmentation (Füller and Matzler, 2008; Guo et al., 2013b) and overbooking (Schütz and Kolisch, 2013; Toh, 1985), to fully utilize their finite capacity or to maximize their occupancy rate. Among these

strategies, overbooking, in which reservations are offered in excess of product capacity, is widely applied to hedge against the capacity idleness that is caused by cancellations and no-shows (C&NS), which are commonplace in service industries (Amaruchkul and Sae-Lim, 2011; Chatwin, 1999; Klophaus and Pölt, 2007; Mauri, 2007).

Although overbooking helps service providers increase the utilization of their finite capacity, this strategy can also be a double-edged sword because some customers are denied of service when the number of arrivals exceeds the capacity. Such denial is a terrible experience for customers (Zhang et al., 2010; Lindenmeier and Tscheulin, 2008; Hannigan, 1980). Service providers also incur disrepute and economic losses when they have no choice but to refuse customers. For instance, on June 24, 2011, a group of 13 passengers who had ordered tickets in advance through China Southern Airlines was informed that only three tickets were left upon their arrival at the airport because of overbooking (<http://www.chinanews.com/cj/2011/06-26/3137099.shtml>). The passengers felt that the airline infringed their agreement, which prompted the company to arrange another flight for these passengers without any charge, return 50% of their ticket fare, and provide these passengers with accommodation and follow-up service as they waited for their next flight.

* Corresponding author.

E-mail addresses: gxl@ustc.edu.cn (X. Guo), dyf2010@mail.ustc.edu.cn (Y. Dong), lyling@ustc.edu.cn (L. Ling).

Although denied customers may obtain compensation from service providers, such compensation is mostly negligible compared with the serious consequences of schedule disruption. For example, businessmen who miss a flight will have their work plans disrupted or miss important meetings, which can induce immeasurable losses.

Consequently, a terrible overbooking decision will not only hurt the reputation and revenue of service providers, but also cause immeasurable losses for the customers. Therefore, service providers must develop a proper overbooking strategy to increase their profits, while customers must understand such strategy to avoid being denied of service.

This paper analyzes the optimal overbooking strategy of a service provider (an airline or a hotel) by modeling a Stackelberg game with an online travel agency (OTA) in the e-business environment. From the customer perspective, the possibility for a denied service is then analyzed based on the identified optimal overbooking strategy.

The optimal overbooking pad of the service provider decreases along with the monetary compensation that they pay to their denied customers. Therefore, a higher monetary compensation ensures a lower probability of denied service when customers request for reservations. Customers can estimate the possibility of a denied service according to the announced non-performance penalties of service providers and then select the most desirable service providers in case of schedule disruptions. In turn, service providers must announce the value of their compensation to their customers to reassure them that they will not be denied of any service.

The rest of the paper is organized into several sections. After reviewing the related literature in Section 2, Section 3 describes the developed model between a service provider and an OTA and then analyzes the methodology for solving the optimal overbooking strategy of the service provider. Section 4, discusses the probability for those customers with reservations to be denied of service. Section 5, illustrates the solutions for the optimal overbooking pad by presenting a numerical example, and then identifies the probabilities of denied service under different values of monetary compensation. Finally, Section 6 concludes the paper by summarizing the findings, implications, and directions for future research.

2. Literature review

Many publications have examined how service providers set appropriate overbooking levels and apply such strategy in managing their revenues. Weatherford and Bodily (1992) examine the interrelatedness among overbooking, pricing, and yield management, which is also called perishable-asset revenue management in the service industry. To explore the effect of customer C&NS on yield and pricing policy, Badinelli (2000) suggests that the cancellation and “walking” processes of customer reservations must be examined along with the arrival process. Overbooking is an effective non-pricing tool for revenue management (Hadjinicola and Panayi, 1997; Ivanov and Zhechev, 2012; Lan et al., 2007). Rothstein (1971) introduces a model for determining the airline overbooking policy and obtaining its optimal solutions. By comparing the inventory level of a previously confirmed reservation with the number of unconfirmed new requests, the hotel adjusts its overbooking level to maximize its net profit (Lieberman and Yechiali, 1978). Similarly, by adopting a booking-limit policy to handle the airline overbooking problem, Chatwin (1999) suggests that the airline must decide whether to accept new reservation requests or not by checking the number of initial reservations. Rothstein (1974) introduces a decision model for hotel booking policies and specifies the overbooking practice by controlling the risks and costs of oversales.

The application of the overbooking strategy in highly complex conditions has also been examined. Koide and Ishii (2005) analyze hotel overbooking problem with two types of room prices, assuming that customers book a room with early discount. Karaesmen and Van Ryzin (2004) consider an overbooking problem with multiple reservation and inventory classes in which customers can be assigned to various inventory classes to maximize the net benefit of assignments. Ivanov (2015) studies the hotel overbooking limits and assumes that the reserved rooms can be upgraded or downgraded by one level. In one of his earlier papers, Ivanov identifies the optimal overbooking limits for guaranteed and non-guaranteed hotel reservations (Ivanov, 2007). Other articles have also analyzed the application of the overbooking strategy in the hotel and airline industries (Aydin et al., 2012; Chatwin, 1996; Coughlan et al., 1999; GOSAVII et al., 2002; Lan et al., 2011; Lieberman and Yechiali, 1978; Subramanian et al., 1999; Toh, 1975).

In most of the aforementioned overbooking models, the show demand is assumed to be a linear product of the overbooking level and show-up rate. Amaruchkul and Sae-Lim (2011) suggest that this assumption may be deficient under certain conditions. Therefore, they explore such model misspecification.

Instead of developing a model to set an optimal overbooking level for service providers, other researchers have examined the behavior of customer no-shows. Garrow and Koppelman (2004) study the no-show and standby behavior of airline travelers using passenger and directional itinerary data, which can help carriers develop highly accurate forecasting models. Dupuis et al. (2012) examine a logical approach for analyzing the data for estimating passenger show rates at Air Canada and reveal that such approach can offer accurate predictions.

However, when the number of arriving customers exceeds the capacity, overbooking may result in oversales and denials (Baker et al., 2001). Given that carriers have strong internal incentives to reduce denied boardings, Garrow et al. (2011) investigate those factors that contribute to denied boardings. They contend that a denied boarding is influenced not only by multiple factors compensation amounts, but also by the accuracy, magnitude, and variability that are associated with no-show forecasts, load factors, and carriers' day of departure operating policies.

Other studies further analyze the influence of service denial on the performance of service providers. Wittman (2014) shows that the involuntary denied boardings by airlines are significantly correlated with higher oversales and service quality complaints from passengers. Lindenmeier and Tscheulin (2008) verify that a denied boarding because of overbooking will induce customer dissatisfaction, which in turn counteracts the positive effect of revenue management. To further understand the negative effect of canceled reservations, Hannigan (1980) explores the origin, nature, and dimensions of consumer complaints in the tourist industry. To prevent negative publicity through word of mouth, service providers adopt certain measures to minimize the negative effects of walking guests (DeKay et al., 2004). Ivanov (2006) suggests that guests with shorter stays must be walked instead of those with longer stays, and transfer the walked guests to another establishment of the same category, or provide their guests with a free room upgrade. Sparks and Fredline (2007) provide suggestions for hospitality industries to mitigate the negative influence of service failure on customer satisfaction and loyalty. When determining compensation levels in overbooking situations, airlines must consider the temporal costs of passengers and ensure that their compensation will satisfy their demands (Park and Jang, 2014). Also, Wilson et al. (1994) examine the legality of the overbooking practice and propose some amenities to placate the denied guests.

Although many studies have investigated the overbooking phenomenon, most of them are conducted from the perspective of

Download English Version:

<https://daneshyari.com/en/article/1030674>

Download Persian Version:

<https://daneshyari.com/article/1030674>

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