Impact of the April Fair on Seville hotel room prices: Measurement through a hedonic approach

Impacto de la Feria de Abril en los precios de las habitaciones de hotel de Sevilla: Medida a través de una aproximación hedónica

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Abstract

Despite its importance as a tourist attraction, sparse research regarding tourism and hospitality has been focused on Seville's April Fair. That is why the main purpose of this paper is to assess the impact the April Fair and other key elements have on hotels, using the well-known hedonic price model and a database of 1,548 items compiled using TripAdvisor. The results suggest that although the April Fair has a significant and positive effect on the prices of hotel rooms, these results are mixed during the fair. Specifically, the effects of the April Fair can be felt during the weekdays when fairgoers add to those visiting the city on business. However, during the weekend, fair prices do not differ from a non-April day fair. In addition, prices on Sunday Fair are lower than average prices on non-April Fair days. This has important implications for both hotels and organisers of the event. In addition, the results show how the category begins to lose importance in relation to the assessment of the quality perceived by customers. Some implications and solutions are discussed below.

Keywords: Seville, hotel, hedonic, April Fail, prices.

Resumen

A pesar de su importancia como atracción turística, existe escasa investigación sobre turismo y hospitalidad centrada en la Feria de Abril de Sevilla. Es por eso que el objetivo principal de este trabajo es evaluar el impacto de la Feria de Abril y otros elementos clave en los hoteles, utilizando el conocido modelo de precios hedónicos y una base de datos de 1.548 ítem compilados con TripAdvisor. Los resultados sugieren que, aunque la Feria de Abril tiene un efecto significativo y positivo en los precios de las habitaciones de hotel, estos resultados varían a lo largo de la feria. Específicamente, los efectos de la Feria de Abril se pueden sentir durante los días de la semana cuando los visitantes de feria se unen a los que visitan la ciudad por negocios. Sin embargo, durante el fin de semana, los precios de la feria no difieren de los de un día que no sea Feria de Abril. Además, los precios de la feria durante el domingo son inferiores a los precios medios de los días que no son Feria de Abril. Esto tiene importantes implicaciones tanto para los hoteles como para los organizadores del evento. Además, los resultados muestran cómo la categoría empieza a perder importancia en relación con la evaluación de la calidad percibida por los clientes. A continuación, se analizan algunas implicaciones y soluciones.

Palabras clave: Sevilla, hotel, hedónico, Feria de Abril, precios.

Introduction

Seville is a city located in the south of Spain and it is the capital of the autonomous community of Andalusia. It is also the largest city of the region with about 700,000 inhabitants. It is a cultural destination with a long tradition of tourism activities (Ballesteros & Ramírez, 2007). Seville is the second Andalusian province in tourism employment behind Malaga and it is the second busiest airport community, exceeding Malaga in the number of domestic flights (Consejería de Turismo y Comercio, 2014). Indeed, Seville city is the fifth destination in the ranking of TripAdvisor's travellers' choice for Spain in 2016 (TripAdvisor, 2016) and it attracted a total of 3,433,627 tourists in 2015 (Ayuntamiento de Sevilla, 2015). Seville has two mass festive events, i.e. Holy Week and April Fair, which have shaped many of the features of its economic, social and urban development (Castillo-Manzano, López-Valpuesta, & Marchena-Gómez, 2015). Despite the touristic importance of the city, there is no research focused on it. This lack of research is not aligned with the relevance of the city or province in comparison with the large amount of research in other areas, such as Costa del Sol (see Almeida-García, Peláez-Fernández, Balbuena-Vázquez, & Cortés-Macías, 2016; Fernández-Morales & Mayorga-Toledano, 2008; Jurado, et al., 2012; Jurado, Damian, & Fernández-Morales, 2013; López-Sánchez & Pulido-Fernández, 2016; López-Toro, Díaz-Muñoz, & Pérez-Moreno, 2010; Pollard & Rodriguez, 1993; Rodríguez, Molina, & Caballero, 2012; Sinclair, Clewer, & Pack, 1990, among others). Therefore, the purpose of this article is to assess the importance of the April Fair to the prices of hotel rooms in the city through a hedonic price model. This would allow for measuring the impact of such events but also allow for measuring the importance of other key aspects of the hotels as affects the room price. This paper aims to shed light on research for the city of Seville, allow hotel managers to improve price management during an event and improve the management of variable costs. It also may have implications for destination managers and policy makers about how to improve and better capitalise the April Fair.

Hedonic Price

The hedonic price model, as developed by Rosen (1974), allows researchers to measure the influence of different attributes that constitute either goods or services in the prices of these goods or services. In spite of the wide range of articles on hedonic price in the areas of hospitality and tourism, each of them has a different approach and different locations. The overall view in hedonic pricing literature is that category and location are the main variables determining hotel room prices (Abrate, Capriello, & Fraquelli, 2011). However, it is possible to identify different groups of papers.

First, some researchers have tried to measure the impact of different facilities on hotel room prices, as is the case of Agmapisarn (2014) for Bangkok hotels or Chen and Rothschild (2010) for Taipei hotels. In this group we could also include works like the studies by Rigall-I-Torrent and Fluvià (2011) wherein the importance of public goods in hotel room prices is evaluated or Sánchez-Ollero, García-Pozo and Marchante-Mera (2014), who evaluated the impact of hotels' environmental management on hotel room prices.

A second group could be formed by those researches focused on the importance of the location of hotel room rates. For example, Fleischer (2012) determined the impact that a view of the Mediterranean Sea has on hotel room price for hotels located in this region or Lee and Jang (2011), who assessed the impact on room prices in U.S. airport hotels of hotels' proximity to business centres and airports or Bull (1998), who conducted a thorough analysis about the relevance of location on the price.

Finally, the last group could be composed by other works, which are focused on other significant variables, e.g. seasonality (Monty & Skidmore, 2003), hotels' category (Israeli, 2002) and if the hotel is part of a chain (Thrane, 2007), booking margin or differences between weekdays and weekend (Schamel, 2012). Specifically, for the measurement of the importance of events in prices, Hermann and Hermann (2014) measured the impact of Oktoberfest on Munich hotels.

Methodology

In hedonic price models, hotel services can be seen as consisting of a bundle of attributes (Rigall-I-Torrent & Fluvià, 2011). The hedonic price model assumes that there is a perfectly competitive market without significant transaction costs (Falk, 2008). The general specification for the hedonic price model is given by equation (1). In addition, it is resolved using the ordinary least squares (OLS) regression model.

(1) $\quad P_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki} + u_i$

In equation (1), P_i is the room price, α is the constant, X_{ki} is the hotel room attributes or characteristics and β_k is their associated coefficients. However, as declared by Wooldridge (2009), it is better to use a natural logarithm model for improving the explanatory power. Therefore, this paper applied the hedonic price equation given by equation (2) in the same manner as Agmapisarn (2014) and Schamel (2012), among other authors in tourism and hospitality research.

(2) $\quad Ln\, P_i = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki} + u_i$

Data

The April Fair took place in Seville from April 12th to 17th 2016. Based on the literature review, core variables were compiled for the analysis below. Using TripAdvisor's website, different types of data were collected, such as the hotel's star category (Abrate et al., 2011; Espinet, Saez, Coenders, & Fluvi, 2003; Israeli, 2002; Schamel, 2012, among others), distance to the city centre (Bull, 1994; Shoval, McKercher, Ng, & Birenboim, 2011), number of rooms as a proxy of the hotel's size (Zhang, Zhang, Lu, Cheng, & Zhang, 2011), customer assessment variables to capture the electronic reputation of the hotel (O'Connor, 2010), similar to the data collection methods of other works (Schamel, 2012; Herrmann & Herrmann, 2014). Hotel prices were collected for a period of three weeks, i.e. before, during and after April Fair. For all of these, the difference between the check-in date and booking date was zero. In all cases the cheapest available room rate for a double room per night was captured. The database is composed of 1,548 entries. The variables, their brief description and their descriptive values are listed in Table 1 below

Table 1. Descriptive values

Variable	Description	Mean or %	Standard Deviation
LNPrice	Ln form of price	4.7333	0.57646
Star	Category stars	3.828	0.4381
Rating	Overall rating in TripAdvisor	3.13	1.038
Size	Number of rooms	90.15	96.729
Distance	Distance to the city centre	2.130	2.6252
FAIR	Fair night (Non-Fair = 0, Fair = 1)	28%	0.447
TUESDAY	Tuesday night (No = 0, Yes = 1)	19%	0.392
WEDNESDAY	Wednesday night (No = 0, Yes = 1)	17%	0.378
THURSDAY	Thursday night (No = 0, Yes = 1)	16%	0.365
FRIDAY	Friday night (No = 0, Yes = 1)	14%	0.349
SATURDAY	Saturday night (No = 0, Yes = 1)	9%	0.280
SUNDAY	Sunday night (No = 0, Yes = 1)	10%	0.297
FAIRMTH	Weekday fair (No = 0, Yes = 1)	20%	0.401
FAIRFSA	Weekend Fair (No = 0, Yes = 1)	5%	0.211
FAIRS	Sunday Fair (No = 0, Yes = 1)	3%	0.164

Two models were designed. Both include the core variables of the literature (stars, rating, size and distance). The difference between the two models is the method of measuring the impact of the fair. The first model checked the overall impact of the fair on hotel room price. It includes seven dummy variables (fair, Tuesday, Wednesday, Thursday, Friday, Saturday and Sunday using a Monday night in which the fair was closed as a reference.

The second model was designed to check for different patterns for fair days. In this model, three dummy variables were included, e.g. for the April Fair nights between Monday and Thursday (FAIRMTH), for the April Fair nights on Friday and Saturday (FAIRFSA) and for the April Fair nights on Sunday (FAIRS). Both models get unity for each night and zero otherwise. On this model, the benchmark situation for all dummy variables was a non-April Fair night.

Results

When estimating the hedonic pricing model, problems of multicollinearity and autocorrelation usually appear, which must be checked for and controlled. Similar to Chen and Rothschild (2010) and Schamel (2012), the variance inflation factors (VIFs) were calculated, and all values were below the critical values suggested by Kennedy (2008). Accordingly, it is possible to conclude that multicollinearity is not present. In contrast, to counter the autocorrelation, an autoregressive AR(1) variable must be added, as was the case for Herrmann and Herrmann (2014). Following Halvorsen and Palmquist (1980), the coefficients associated with the dummy variables in both models need an adjustment to estimate the appropriate percentage effect on hotel room price in a log-linear model for a useful economic interpretation. Table 2 compiles the regression values for both models. The euro value has been calculated from base to average room price.

Table 2. Estimated regression values for both models

Estimation results [ln(price) = dependent variable].									
	Model 1					Model 2			
Parameter	Coefficient		Beta Standard	%	€-Value	Coefficient		Beta Standard	%	€-Value
Constant	1.162***	(0.099)				1.247***	(0.101)			
Rating	0.229***	(0.024)	0.174		26.03	0.225***	(0.025)	0.171		25.58
Stars	0.110***	(0.011)	0.199		12.50	0.108***	(0.011)	0.194		12.28
Size	0.000*	(0.000)	-0.03		-0.02	0.000	(0.000)	-0.027		0.00
Distance	-0.027***	(0.004)	-0.123		-3.07	-0.026***	(0.004)	-0.117		-2.96
FAIR	0.201***	(0.022)	0.156	22.26	25.31	-				
TUESDAY	0.147***	(0.032)	0.1	15.84	18.00	-				
WEDNESDAY	0.098**	(0.033)	0.064	10.30	11.70	-				
THURSDAY	0.114***	(0.034)	0.072	12.08	13.73	-				
FRIDAY	0.196***	(0.036)	0.119	21.65	24.61	-				
SATURDAY	0.243***	(0.042)	0.118	27.51	31.27	-				
SUNDAY	-0.237***	(0.040)	-0.122	-21.10	-23.99	-				
FAIRMTH	-					0.251***	(0.024)	0.175	28.53	32.43
FAIRFSA	-					0.079	(0.048)	0.029	8.22	9.34
FAIRS	-					-0.252***	(0.058)	-0.072	-22.28	-25.33
LnLagPrice	0.485***	(0.023)	0.483		55.13	0.491***	(0.022)	0.489		55.81
F-Stat	198.459***					265.976***				
Adj. R-square	0.605					0.578				
Durbin-Watson	1.985					2.069				

* p = 0.1.

** p = 0.05

*** p = 0.01

Discussion

In both models, the most important factor in shaping the variable price at a particular time is the price on the previous day. This is reflected in LnLagPrice, which is in both models the highest beta value both absolute and standard terms. It seems logical that this would be so and denotes a certain structural permanence in the prices of hotels. In contrast to the results of Herrmann and Herrmann (2014) in Munich, there is no volatility in pricing for each hotel from day to day. This price is

determined by the conditions of the city and the pricing strategy set by the hotels. Secondly, the valuation variable appears in absolute terms. This would be in line with Abrate and Viglia (2016), who proved that online reputation was gaining importance compared to the traditional star rating, or Torres, Adler and Behnke (2014), who declared that the category rating may be obsolete as a stressing item and be without importance nowadays. However, if we focus on the standard betas, the hotel category is the most important pricing variable, which is consistent with the previous literature (Abrate, et al., 2011;

Israeli, 2002; Schamel, 2012). Following de la Peña et al. (2016), the star category has a significant impact on hotel room price, conditioned by other attributes such as offer quality, diversification, customisation and having membership in an international chain, for increasing the willingness to pay for a hotel room. These results highlight the relevance of quality and innovative management in the lodging sector at a time when hotel managers should be concerned about the relevance of the social media and hotel reputation on price. Actively engage in these online conversations (Yang, Mueller, & Croes, 2016).

In addition, distance has a significant negative influence on hotel room prices in both models (Schamel, 2012; Zhang, et al., 2011), while the size of the hotel has in the first model a significant negative impact on prices. These are the general results of empirical research (e.g. Abrate, Fraquelli, & Viglia, 2012; Becerra, Santaló, & Silva, 2013; Mazzeo, 2002; Zhang, et al., 2011). Nevertheless, the relationship between size and price in the second model can be considered null (Agmapisarn, 2014).

With regard to the fair, the first model is seen as the price of the room at the fair in April increased by 22.26%. Therefore, the April Fair is an event with a significant impact on the room prices of hotels in the city, as was the case of the Herrmann and Herrmann (2014) research measuring the impact of the Oktoberfest in Munich. At the same time, this model shows a normal pattern regarding the distribution of prices for each day. That is, lower prices during weekdays and over on weekends with a significant reduction on Sundays (Abrate, et al., 2012; Schamel, 2012). However, in the second model it is possible to note that during the fair, prices are significantly higher only during weekdays, at a rate of 28.53%, staying about the same price for non-fair days during the weekend and being reduced more intensely on Sundays during the fair. This means that the impact of the fair is focused exclusively during the first days, modifying the usual pattern of city accommodation. This fact seems to be consistent with the results of Herrmann and Herrmann (2014) and their interpretation, i.e. during the weekdays, normal event business visitors compete with April Fair visitors, causing the hotel room rates to be raised. However, this effect does not extend to the weekend of the fair. This means that for the purposes of the fair, the hotel offer only lasts the first four days. This may be due to several reasons. First, the fair duration might be too long so that visitors may not be able to attend all the fair events in a few days. Second, it is possible that these fair days are not particularly attractive for visitors; in other words, there may be a lack of positive inducements to attend, such as concerts, booths, attractions, etc. or there may be a number of negative or unpleasant elements that make the show not attractive on those days. In both cases the fair organisers should take steps to improve the quality of the show and get increased lengths of stays or to attract greater numbers of tourists during the weekend. This differs from the results of Herrmann and Herrmann (2014); however, these results are not directly comparable due to the fact that new event development took place immediately after the Oktoberfest. This suggests that a possible method to expand the influence of the April Fair might be holding an event in the following days to get an increased length of stay during the fair or the arrival of new visitors.

From the view of visitors, this paper shows that they might save money if they book the room for the weekend fair in contrast to weekdays of the fair. However, these savings could be greater if the patterns about booking margin found by Abrate, et al. (2012) are maintained. However, in the case of hotel managers, they should prioritise booking requests that include the weekend fair and change the usual pricing strategy of reducing the last-minute prices on weekdays towards a strategy of increasing prices as the date approaches. In addition, they should not forget the relevance of other variables such as the rating and number of stars. If a hotel can improve the rating by one, the willingness of visitors to pay would grow by 22.9%. Finally, the best strategy for hotel managers for the fair must be to improve the hotel's quality. This because, first, the coefficient of improving the perceived quality is higher than the coefficient of the fair week and second, because the fair lasts only one week.

Conclusion

Given the lack of research focused on the city of Seville, the main purpose this article was to analyse Seville hotels and the city's April Fair. Moreover, it intended to contribute to the empirical basis of papers made with hedonic pricing models. This model is quite widespread and includes easy to moderate levels of variables where collinearity is not an issue.

This article proves that although the April Fair contributes significantly and positively to the hotel room prices in the city, this increase varies according to the fair days. That is, prices for hotel rooms are higher during the weekdays of the fair and normal for the weekend of the fair. This should show the fair's organisers and policy makers the need to analyse and improve the fair in its final stretch and find methods that increase the length of stay of visitors. It gives some advice to visitors about the cheapest way to visit the April Fair, and it also provides a basic guideline for hotels on how to improve the use of the event's results via prices. Further research on the city would be desirable, concerning both hotels and destination management. For example, a similar and more comprehensive study could be done for another great event, i.e. the Easter holidays.

Finally, the research shows a trend of change in the importance of the star rating in hotel pricing. As we have noted in a previous point, some authors emphasise that possibility. More research will be needed to determine whether the time or the impressions of travellers end up causing the hotel's category to be relegated to the second tier of variables in importance as concerns determining the price.

This paper has some limitations. First, the methods used in this paper are limited due only the main hedonic variables of the literature were collected. It would be possible to develop a more complete and complex model, and researchers are encouraged to do so. For the starting point, this paper tried to establish a simple and easily replicable model. It is true that the incorporation of new variables may give better adjustments, but it will also require measures to solve the multicollinearity. Second, this article has focused on Seville hotels and has not taken into account other types of accommodation, which may

have different patterns or even increase their prices significantly during the weekend of the fair. We also encourage researchers to focus on such an area of research. Finally, following the data would be necessary to carry out an analysis

of the quality destination. Doing so could shed light on the causes of the limited effect on prices of the fair during the weekend and at the same time would improve the hedonic model of these variables.

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