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Role of e-WOM in hospitality market pricing

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Abstract

Aim/purpose – Online assessments are one of the main factors determining a customer's choice of accommodation. This article examines their relationship to prices in the low and high season in Cracow's hospitality market. The question of which attributes in hotel ratings explain the change in price levels was investigated.

Design/methodology/approach – The inference was based on ratings and hotel room offers published on the Booking.com platform. Data were collected and estimated for the representative number of 97 hotels in Cracow. Regression analysis was then used to estimate the model.

Findings – The results of the analysis showed that price levels for the high and low seasons are correlated with ratings for comfort and location. It is more precise to use these variables as an explanation for prices in the high season. Guests' perceptions of comfort and location are combined with other hotel features.

Research implications/limitations – The study showed which of the hotel parameters should be enhanced when rationally increasing price levels. The limitations of the study are that it covered only one Polish city, collected data from a single website, and omitted other variables to explain the prices of hotel rooms.

Originality/value/contribution – This is one of the first papers to examine the correlation between electronic consumer ratings and price levels in the Polish hospitality market and one of few investigations based on the role of e-WOM for the pricing of all objects in the sector, not just for a specific category of hotels.

Keywords: consumer ratings, e-WOM, hospitality market, online reviews, pricing.

JEL Classification: C38, L83, Z33.

1. Introduction

Direct, informal communication is a very effective method for encouraging a client to consume a product [Arndt 1967; Westbrook 1987]. Not surprisingly, word-of-mouth marketing (WOM) has rapidly moved to the virtual world along with the development of the Internet, which is a quick and convenient space where consumers can exchange information [Nielsen Company 2014]. The need for people to share their opinions about products can be seen from the number of specialized portals and mobile applications dedicated to reviewing goods and services (e.g., Tripadvisor.com), as well as expanded pages devoted to ratings and comments offered by the suppliers of goods (Amazon.com) and services (Booking.com).

When it comes to tourism, consumers mainly share information associated with the hotel industry and use it to make decisions concerning accommodation [Gretzel & Yoo 2008]. Online reviews are perceived by potential customers as being authentic, trustworthy, and helpful [Li & Hitt 2008], thus influencing their market choices [Park, Lee & Han 2007; Ye et al. 2011; Mauri & Minazzi 2013]. Most of the previous studies were concerned with a certain segment of the market. Not many investigations have researched the impact that these reviews have on hotel room prices [e.g., Zhang, Ye & Law 2011; Ögüt & Onur Taş 2012]. According to the author's knowledge, none of them contain a complete comparison of the high and low seasons. Therefore, the lack of examinations of the role of e-WOM in hospitality market pricing can be noted, especially for the Polish market.

Hence, the aim of this study was to identify which attributes of hotels (the subject of electronic word of mouth – e-WOM) affect the level of room prices in Cracow. The study shows the relationship between these elements during the low and high seasons and demonstrates which characteristics of hotels are perceived similarly by visitors. The strength and direction of consumer ratings in connection with hotel room prices were tested with multiple regression analysis using an ordinary least squares method (OLS). Consumer ratings were taken from the platform Booking.com. The research sample included 97 hotels, which is the representative research group (according to the quantitative calculations).

The survey results allowed for the identification of elements that should be improved in order to maximize online consumer ratings; the results also provided information about why some elements of a facility may receive customer evaluations below their actual quality. In addition, the features assessed using the platform Booking.com that significantly affect the price levels of accommodation services in the low and high seasons were identified.

The elaboration is divided into five sections. The first one contains a literature review of the role of e-WOM and determinants of hotel room prices. In the second part, the methodology of the survey, including the aim of the study, sample, and statistical method, is presented. The third part consists of the survey results, which are discussed in the fourth section. The article concludes with practical tips for managing hotel facilities.

2. Literature review

2.1. e-WOM in tourism

The concept of word of mouth (WOM), which assumes a higher efficiency of informal personal communication over traditional forms of advertising, has been around since the 1960s [Arndt 1967]. Over time, an understanding of this concept has evolved and has ceased to signify only a verbal message; it now encompasses all forms of communication between clients [Westbrook 1987]. The Internet revolution and further rapid growth of social media have allowed more and more customers to look for recommendations about products on the web. The growing importance of virtual opinions is confirmed by research published by the Nielsen Company [2014]. According to this research, nearly 60% of consumers in developed countries base their purchasing decisions on information available on the Internet.

Westbrook [1987] pointed out that the formation of WOM has its source in the positive and negative feelings that create inner tension for the consumer. This emotion leads consumers to share their experiences about a product. Subsequent research on hospitality made by Ladhari and Michaud [2015] has shown that the critical part of these reviews has more influence on the purchasing decisions of customers. In addition, e-WOM can have a much more powerful impact than traditional WOM [Ögüt & Onur Taş 2012] as a result of its advantages in speed and ease of access to information, longer duration of accessibility, and a certain closeness of relationships without the pressure of personal contact [Mauri & Minazzi 2013]. Both of these forms of communication are distinguished by their scope, users' rate of reaction, information sources (which do not have to be a person known to the recipient), and convenience [Luo & Zhong 2015].

In the tourism sector, consumer opinions posted online are used primarily for decision-making when choosing accommodation [Gretzel & Yoo 2008]. Yacouel & Fleischer (2012) claimed that positive reviews posted by past guests on online travel agents (OTAs) like Booking.com play an important role in en-

hancing the image of hoteliers, which enables the generation of higher prices for hotels that hold a good reputation. Favorable opinions about the reserved facilities increase their popularity, the probability of additional bookings, and their market share [e.g., Park et al. 2007; Ye et al. 2011; Duverger 2013; Mauri & Minazzi 2013]. Ögüt & Onur Taş [2012] proved that assessment is also reflected in the price levels of rated hotels, and, according to studies by Kim, Lim & Brymer [2015], even in the financial condition of hotels.

Online reviews perform a double role. They provide information about products and services as well as a space for social recommendations [Park, Lee & Han 2007]. Portals that enable these recommendations are direct service providers (e.g., Booking.com) or specialized platforms (e.g., Tripadvisor.com). The effectiveness of both is similar: as Senecal & Nantel [2004] have evidenced, the type of website on which recommendations are placed does not affect the perception of their credibility (and thus customer purchasing decisions). Gretzel & Yoo [2008] have also shown that greater confidence in electronic content leads women to use e-WOM mainly for seeking entertainment at tourist destinations.

There is no consensus among researchers on how to treat standardized online assessment systems. For Duverger [2013], these are a form of general evaluation of services and should not be associated with e-WOM. Chatterjee [2001] presents a different point of view, suggesting that both reviews and assessments are the most common forms of e-WOM, and Kim, Lim & Brymer [2015] divide electronic opinions into two main parts: basic (evaluation) and additional (text argumentation). This paper presents the second approach, considering scalar evaluation to be in compliance with the assumptions of the concept of WOM from Westbrook's [1987] perspective, which is a form of communication containing generally unofficial messages sent by consumers for consumers.

2.2. Price determinants in the hospitality market

Models of the study of determinants affecting the price of hotel rooms in the typology of Zhang, Ye & Law [2011] have been divided into three categories in terms of techniques and methods: consumer behavior, total analysis, and hedonistic analysis. Rosen's [1974] study consists of the theoretical background for the hedonistic theory of prices. The results of this type of research allow us to see which attributes of a product or service affect price levels and which have no influence on them. One of the first to use this method to identify the price determinants of hotel rooms was Hartman [1989]. He stated that price levels can be described using standardized variables, showing that participants of business

trips are willing to pay more for rooms with high-quality facilities, room service, parking, and a convenient booking method.

Espinet et al. [2003] indicate significant differences in the prices of hotels located in different destinations even if they are positioned in a similar market segment. Within a single destination, the key variable explaining price variation is hotel category [e.g., Israeli 2002; Espinet et al. 2003; Collins & Parsa 2006; Law, Chan & Goh 2007; Zhang, Ye & Law 2011]. In New York, the increase in one-star hotels (on a five-star scale) ranked by the official categorization caused a price change of 35.8% [Zhang, Ye & Law 2011]. Price differences among various categories of hotels are not the same. For example, four-star hotels are significantly different in this regard than others, while the price differences between one- and two-star hotels are minimal. Price is positively affected by hotel brand recognition [Israeli 2002].

However, the attributes of a hotel are some of the most important factors in explaining room prices. The most often mentioned variables are the following: location of the property [e.g., Choi & Chu 2001; Israeli 2002; Lockyer 2005a; Collins & Parsa 2006; Thrane 2007; Liu et al. 2013], cleanliness [Lockyer 2005a; Chu & Choi 2010; Liu et al. 2013], features [e.g., Lockyer 2005a; Collins & Parsa 2006], and service quality [Choi & Chu 2001; Liu et al. 2013]. The dimension of accommodation service can also be explained by a hotel's number of rooms, age, brand, market conditions, and the number of cleaning staff per room [Israeli 2002, Hung, Shang & Wang 2010; Zhang et al. 2011]. According to Thrane (2005), even in the case of sun-and-beach package tours, the price of this kind of service is also partly influenced by hotel attributes such as a mini-bar, hairdryer, free parking, and distance from the downtown area.

Hoteliers adopt a strategy of price differentiation designating the sale of the same services to different groups of customers depending on the price elasticity of the cluster for a given product [Tellis 1986]. Prices in the tourism market are much more flexible than in other sectors, allowing for easier adaptation to the changing environment [Espinet et al. 2003]. The most important factors affecting price volatility in one hotel are number of available rooms [Badinelli 2000; Abrate, Fraquelli & Viglia 2012; Bayoumi et al. 2013], time left to the date of booking [Bayoumi et al. 2013], competitors' prices [Abrate, Fraquelli & Viglia 2012], length of stay [Bayoumi et al. 2013], and other external indicators. Prices are also diversified between distribution channels in order to move the stream of bookings from OTAs to the supplier's website [Toh, Raven & DeKay 2011]. As a result of this practice, the cost of renting a hotel room varies depending on demand (and selling strategy). Thus, the prices of accommodation services increase in the high season and decrease in the low season.

3. Research methods and procedure

3.1. Aims of the study

The aim of the study was to present the role of consumer ratings in the pricing of hotel rooms in the city of Cracow. The answers were in regard to the following questions:

1. Which of the rated features correlated with the price level of categorized hotels in Cracow, and to what extent?
2. Do the features correlate with the price in the same way in both the low and high seasons?
3. To what level are the evaluated features of hotels interdependent?

3.2. Sample

When choosing the destination and origin of e-WOM, the most popular entities in this category in Poland were sought. According to data from the Central Statistical Office [GUS 2015], the biggest base of categorized hotels among all Polish cities was noted in Cracow. Tourists had 234 accommodation facilities at their disposal, 130 of which were categorized hotels. Numerical evaluations issued by the consumers were taken from the most popular site for booking accommodation in the European market: Booking.com [www 1]. Through this platform, cleanliness, comfort, location, amenities, staff, Wi-Fi quality, and the relationship between price and quality are evaluated (the similar factors were previously considered as hotel attributes influencing the level of room prices – Chapter 2.2). The evaluation takes values from 1 to 10 in accordance with a scale available on the website of the service provider. As price is treated as a dependent variable in the study, the last of these parameters was omitted in the examination.

In addition to the relationship between the assessments and price levels, this paper examined whether the described correlation differed from low to high season. Therefore, two extremes were analyzed: the months in which the occupancy rate of the hotels was highest and lowest. According to the data presented in Table 1, these periods were:

1. Low season: February 2017 (seasonal index for the year 2015: 51.2)
2. High season: August 2016 (seasonal index for the year 2015: 145.2)

Table 1. Seasonal index (SI) for the number of tourists arriving in Cracow in 2015

Month	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
SI	52.2	51.2	82.5	101.2	122.9	114.7	137.5	145.2	125.1	116.3	75.6	75.6

Source: Borkowski et al. [2015, p. 31].

The data from the Booking.com portal were collected on July 17, 2016. The sample covered double rooms with breakfast included in the price targeted at individual customers. The objects were selected randomly from all search engine sites for hotels in Cracow. The size of the survey sample was chosen in a way that allowed for the adoption of a maximum sampling error of 5%. Using the equation:

$$N_{min} = \frac{N_p(\alpha^2 \cdot f(1-f))}{N_p \cdot e^2 + \alpha^2 \cdot f(1-f)} \quad (1)$$

where N_{min} is the minimum sample size, N_p is the size of the population tested, α stands for the confidence level, f stands for the fraction size, and e is the maximum sampling error set for the estimation.

It was assumed that $\alpha = 0.95$; hence the value of the normal distribution assigned to the significance level (1.96) was interposed into the formula. The size of the fraction was not known, and thus the value of $f = 0.5$ was assumed. It was shown that the number of observations should be at least 97, and this trial number was adopted for the study.

The data indicate that prices of accommodation vary considerably depending on the rental period (Table 2). In February, it is possible to rent a hotel room in Cracow for 90 PLN, while a room will cost at least 104 PLN in August. However, prices in the most expensive hotels can reach 1,092 PLN in peak season, while they only cost 800 PLN in the low season. On average, hotel rooms cost 398 PLN in August and 282 PLN in February. In months of increased demand, prices are much more diverse (the standard deviation of prices in August is more than twice as high as in February, and the coefficient of variation for the two seasons is close to 50%).

Table 2. Descriptive statistics of the sample

Variable	Price (season)		Cleanliness	Staff	Location	Wi-Fi	Comfort	Facilities	Average
	Low	High							
Average	282	398	8.64	8.61	8.60	8.20	8.13	7.94	8.35
Standard error	12.4	19.0	0.08	0.06	0.09	0.09	0.09	0.08	0.07
Standard deviation	122.4	187.6	0.75	0.63	0.91	0.86	0.89	0.80	0.69
Coefficient of variation	43%	47%	9%	7%	11%	10%	11%	10%	8%
Minimum	90	104	5.60	6.50	6.10	4.40	4.60	4.70	5.57
Maximum	800	1,092	9.80	9.90	10.00	10.00	9.60	9.30	9.55

Due to the selection of a unified trial for both periods, the average evaluation of each parameter remains unchanged. The most appreciated parameters in hotels in Cracow are cleanliness, location, and standard of service. The lowest level of satisfaction is observed in the rating of facilities and comfort. Average scores are in the range of 7.94-8.61; standard deviation is not greater than 0.91, standard error (SE) is less than 0.1, and coefficients of variation do not exceed 10%. All of this indicates weak data dispersal in the sample.

3.3. Method

It was assumed that hotel room prices are a function of the variables of the attributes of a property. The applied approach has previously been used for explaining the online evaluation of the price levels of hotel rooms [e.g., Zhang, Ye & Law 2011; Ögüt & Onur Taş 2012] and the number of bookings [e.g., Ye et al. 2011]. The scale of Booking.com (1-10) can be treated as a Likert scale, providing guests with the opportunity to express how much they like a certain attribute of a hotel, which should be interpreted as the intensity of a given feature. The validity of the adopted approach is confirmed by Norman [2010], who claims that parametric statistics can be used with Likert data.

The study consisted of three stages. The starting point was the analysis of partial correlation between variables according to the following formula:

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}} \quad (2)$$

where x_i and y_i define the following values of the variables x and y , whereas \bar{x} and \bar{y} are the average values of these variables.

The second stage was to eliminate multicollinearity between independent variables. Hence, the tolerance factor T was calculated using the following formula:

$$T = 1 - R_j^2 \quad (3)$$

where R_j^2 is the coefficient of multiple correlation between one explanatory variable and the other explanatory variables (five in this study) according to the following formula:

$$R_{j.1...k} = \sqrt{1 - \frac{\det D}{\det R}} \quad (4)$$

where **DetD** is the matrix of correlation coefficients from 1 to k of variable j, and **DetR** is the matrix of correlation coefficients of variables from 1 to k. In the final model, all of the variables must have a tolerance rate above 10%.

The final phase of the research process was the multiple regression analysis. The ordinary least squares method (OLS) was used to estimate the formula's parameters, obtained by solving the following equation:

$$B = (X^T X)^{-1} X^T Y \quad (5)$$

This part of the inference was carried out in two ways for the low and high seasons, respectively. The relationship between e-WOM ratings and the prices of hospitality services in Cracow were examined using the linear, log-linear, linear-log, and logarithmic functions. The logarithmic model was considered the more accurate for the current study (coefficient of determination was the highest) and is presented in this paper.

Thus, the final models (both studied seasons) undergoing hedonic price analysis can be presented in the following form:

$$\begin{aligned} \ln PRICE_{LOW-SEASONi} = & \beta_0 + \beta_1 \ln_{CLEANLINESSi} + \beta_2 \ln_{COMFORTi} + \beta_3 \ln_{LOCATIONi} + \\ & + \beta_4 \ln_{FEATURESi} + \beta_5 \ln_{STAFFi} + \beta_6 \ln_{WI-FIi} + \varepsilon_i \end{aligned} \quad (6)$$

$$\begin{aligned} \ln PRICE_{HIGH-SEASONi} = & \beta_0 + \beta_1 \ln_{CLEANLINESSi} + \beta_2 \ln_{COMFORTi} + \beta_3 \ln_{LOCATIONi} + \\ & + \beta_4 \ln_{FEATURESi} + \beta_5 \ln_{STAFFi} + \beta_6 \ln_{WI-FIi} + \varepsilon_i \end{aligned} \quad (7)$$

where the coefficient β are the ratings of the elements of the hotels from the sample identified by the index i ($i = 1, \dots, 97$).

4. Results

The results of the correlation analysis (Table 3) indicate that the factors from hotel ratings are mutually interdependent to a great extent. Understandably, perceived comfort is positively correlated with cleanliness, facilities, and staff, while the evaluation of staff is correlated with cleanliness, and cleanliness with facilities. Location, which is the only assessing element not related to the quality of service and equipment, is concerned to a much lesser extent. The analysis results indicate that hoteliers do not improve one element of a hotel evaluation at the expense of another. Instead, the process of raising the perceived quality of an object occurs in a comprehensive manner, which is reflected in consumer ratings. Consequently, neglecting one asset of a hotel will cause a decrease in the perceived value of the others.

Table 3. Correlation analysis of independent variables

Variable	Cleanliness	Features	Comfort	Staff	Wi-Fi	Location
1	2	3	4	5	6	7
Cleanliness	1	0.95	0.92	0.81	0.78	0.56
Features	0.95	1	0.94	0.76	0.74	0.50

Table 3 cont.

1	2	3	4	5	6	7
Comfort	0.92	0.94	1	0.68	0.70	0.50
Staff	0.81	0.76	0.68	1	0.69	0.43
Wi-Fi	0.78	0.74	0.70	0.69	1	0.43
Location	0.56	0.50	0.50	0.43	0.43	1

Note: All correlation coefficients were significant at $p < 0.01$.

Next, the indicator of tolerability was counted (Table 4). The variables that reached the lowest Tolerance Index rates were eliminated from further estimation: cleanliness ($T = 6\%$) and features ($T = 7\%$).

Table 4. Tolerance index for consumer ratings of Cracow hotels

Variable	Location	Wi-Fi	Staff	Comfort	Features	Cleanliness
Tolerance	0.6844	0.3745	0.3044	0.094	0.0677	0.0656

After determining the appropriate elements of e-WOM to select for further estimation, regression analysis was performed. The conjunction of the assessments of the individual elements of hotels with the price of accommodation in the low and high seasons in Cracow was examined (Table 5).

Table 5. The results of the linear model estimation for the determinants of hotel room prices

Variable	Tolerance	Low season		High season	
		Coefficient	Standard error	Coefficient	Standard error
Comfort	0.4043	1.6012***	0.4166	1.8600***	0.4636
Location	0.7266	1.3485***	0.3350	1.7400**	0.3520
Staff	0.4389	0.1544	0.5827	0.4024	0.6970
Wi-Fi	0.4239	-0.2686	0.4142	-0.4811	0.4411

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

These results indicate that price is related to guests' opinions on comfort and location in both examined periods. Growth in the location rating by 1% causes a positive price movement: 1.35% in the low season and 1.74% in the high season. Similarly, changing the comfort evaluation by 1% has a positive influence on the change of prices by 1.60% in the low season and 1.86% in the high season. Figure 1 presents the precise fit of the model to the empirical data for February, and Figure 2 for August.

Figure 1. Price dispersal relative to the ratings for comfort and location in the low season

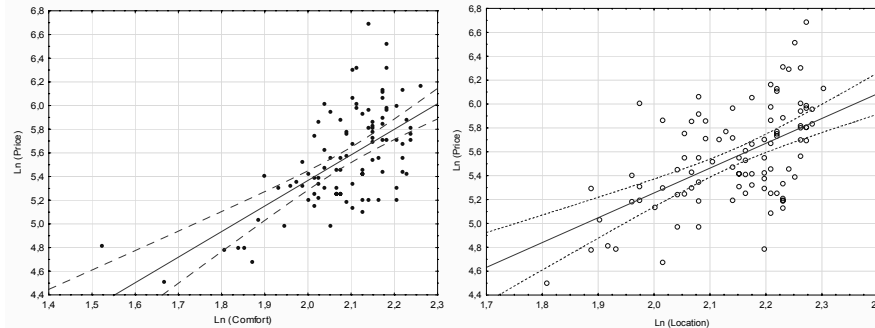
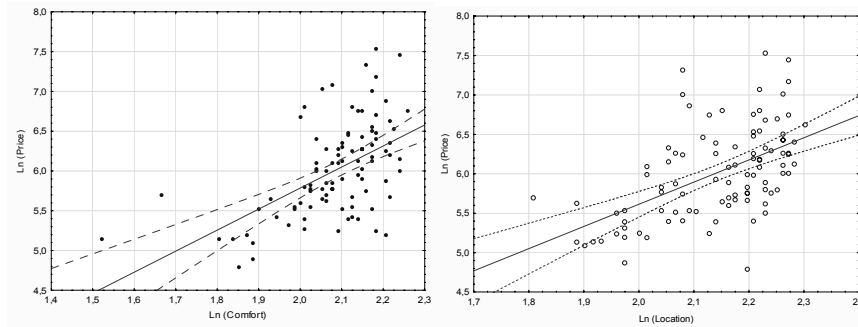


Figure 2. Price dispersal relative to the ratings for comfort and location in the high season



The data presented in both graphs show a large dispersion (SE for comfort amounts to 0.42 in the low season and 0.46 in the high season; SE for location is 0.33 and 0.35, respectively) mostly found outside the regression strap (indicated by a broken line) at a significant level of 0.95%. These models (low season $F = 21.730$, $p < 0.001$; high season $F = 29.107$, $p < 0.001$) show the price level of hotel rooms in Cracow to be at 48% in February and 56% in August (Table 6). Customer ratings do not explain the examined variability in a very precise way, but clearly confirm the growing importance of e-WOM in the tourism sector. Observations from the high season provide a significantly better fit to the estimated model (R^2 higher by nearly 8%), which means that hoteliers should adapt their price offerings to customers' expectations along with growing demand.

Table 6. Results of regression analysis for both seasons

Statistic	R	R ²	F (4; 92)	p-value	SE
Low season	0.6970	0.4858	21.730	0.0000	0.3025
High season	0.7474	0.5586	29.107	0.0000	0.3214

The change in the evaluation of comfort and location plays a greater role in the change in price levels in the high season than in the low season, which is associated with higher consumer pressure on suppliers. In both cases, the attribute of comfort is characterized by higher price sensitivity. The coefficient for the assessment of location grows faster in the analyzed periods than the comfort variable. Therefore, hoteliers can exploit the advantage of location in the high season more than during other periods of time. Along with a decrease in the possibility of choosing parameters best suited to the requirements of the tourist (smaller number of available rooms on the market), it becomes more important to find a facility in a convenient location (as close to tourist attractions as possible). Hence, the long-term objective of hoteliers should be taking care of guests' comfort. This is the aspect that will not only result in the achievement of higher ratings for other elements (facilities), but will be the biggest contributor to the possibility of justifying an increase in prices.

5. Discussion

This article indicates which of the rated variables explain changes in hotel room prices in Cracow. In both of the examined seasons, these elements are location and comfort. This confirms the findings of the previous studies that have asserted that room quality and convenience of location are the most important characteristics affecting price [e.g., Thrane 2007; Zhang, Ye & Law 2011]. The precise components of these two categories vary depending on the study. The location attribute applies to the differences between cities [Coenders, Espinet & Saez 2003] and distance from the center [e.g., Israeli 2002; Thrane 2007]. Size, category, brand, quality of service, age, and other selected factors were mentioned within the essential components of the hotel [Israeli 2002; Lockyer 2005b; Thrane 2007; Hung, Shang & Wang 2010; Zhang et al. 2011]. In the holiday property segment, rental prices are affected by destination, category, number of rooms, parking space, and distance from the beach [Espinet et al. 2003].

Although location was presented as the main determinant influencing hotel room prices in several studies, all of them display additional variables explaining price levels, including features, staff service, and cleanliness [Choi & Chu 2001; Lockyer 2005a; Collins & Parsa 2006; Liu et al. 2013]. All of these studies omit comfort as a factor that significantly influences the prices of hotel rooms. Nevertheless, in the current study this variable was correlated with the features, whereas the highest rate of collinearity with other independent variables was cleanliness. The price was not explained by staff ratings, but, according to the

suggestions of Hartline, Ross-Wooldridge & Jones [2003], the performance of this attribute forms the basis of guests' overall perception of service quality.

It should be noted that room prices are also influenced by demand [Tellis 1986; Espinet et al. 2003; Hung, Shang & Wang 2010; Abrate, Fraquelli & Viglia 2012] and the number of free rooms available [Badinelli 2000; Lockyer 2005b; Bayoumi et al. 2013], and that Booking.com is not the only distribution channel that hotels offer for reservations. Guests' expectations of hotels are also affected by hotel class [Zhang, Ye & Law 2011] and the level of online reviews [Vermeulen & Seegers 2009]. In general, therefore, it seems that the results of this study suggest that electronic consumer evaluations explain the 31% volatility of prices in the low season and 43% in the high season, confirming the relatively large role of e-WOM in accommodation pricing.

This is due to tourists' confidence in reviews posted on the Internet [Li & Hitt 2008; Ladhari & Michaud 2015]. Customers' electronic ratings have a positive effect on the demand for rated hotels because, as Ye et al. [2011] have pointed out, a 10% improvement in evaluation causes a 4.4% increase in sales. The results of this study indicate that the location evaluation increase of 1% causes a positive 1.35% movement in the price in the low season and 1.74% in the high season, whereas a 1% increase in the comfort rating positively increases prices by 1.60% in the low season and 1.86% in the high season. These findings confirm the conclusions of previous studies by Ögüt and Onur Taş [2012] and Zhang, Ye & Law [2011]. In Paris and Berlin, a 1% increase in the electronic evaluation results in a 2.68% increase in prices [Ögüt & Onur Taş 2012], whereas in New York an increase of consumer assessments by one star (on a five-star scale) results in a 21% price increase [Zhang, Ye & Law 2011]. The findings of this study are more detailed, showing the differential role of comfort and location in online reviews, including examined variables in two very different times of the year.

6. Conclusions

The main goal of the current study was to extend our knowledge of the relationship between the assessments of particular hotel attributes and their conjunction with the price of accommodation in the low and high seasons. The evidence from this investigation suggests that:

1. Low ratings for a given parameter may be associated with a poor opinion about another characteristic of the hotel (which showed multicollinearity among the independent variables).

2. Consumer opinions corresponding to the location and comfort of the hotel are related to the price of the hotel room regardless of the season.
3. Comfort is a variable that can explain price changes in both seasons, which in turn creates an opportunity for price increases (by improving the quality of service) even in hotels with a disadvantageous location.
4. Guest ratings are much more accurately reflected in the form of prices in the high season, which may be associated with the significantly increased competition for customer acquisition during this period.

The current findings add to a growing body of literature on one of the first investigations of the role of e-WOM in hospitality market pricing for the Polish market. The uniqueness of this study lies in its comparison of the role of e-WOM in relation to hotel room prices for different periods of time. The elements that have the greatest influence on price variability in both cases are the evaluation of comfort and, secondly, the location of the property. These findings support the practical recommendations for the hospitality market in Poland that ensuring comfort and having an attractive location should be a priority for those hoteliers who are interested in enhancing the prices of their offers on a rational basis.

The limitations of this study are that it covered only one Polish city and opinions collected from a single website. The paper studied the formation of prices for individual customers. It would be interesting to assess the effects of e-WOM on the B2B market, as well as to describe more accurately the price volatility in this market.

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