

The impact of hotel attributes on room rate in star graded hotels in Colombo, Sri Lanka

Chandi Karunaratne^{1*}, & D. A. C. Silva²

Department of Tourism Studies, Uva Wellasa University, Badulla, Sri Lanka^{1*}

Department of Economics, University of Colombo, Colombo, Sri Lanka²

chandi@uwu.ac.lk^{*}, drsuranga3@gmail.com²



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Abstract

Purpose: The purpose of this study was to examine how the availability or absence of different hotel attributes affect the room rate during a given period. This study identified the impact of various hotel attributes on the room rate.

Research methodology: Published data on available hotel attributes, and room rates of selected room categories of star-graded hotels in Colombo district, Sri Lanka, were gathered online through booking.com. The Ordinary Least Squares (OLS) method was used to estimate the impact of key determinants under hotel amenities, quality signals, and locational attributes.

Results: The results revealed eleven key attributes of the room rate in star-graded hotels, illustrating the positive impact from seven determinants and the negative impact from four determinants. Hotel class or star grade was the most significant determinant in the room rate, which generally determines the pricing behavior and service quality and most of the attributes and characteristics in a hotel. Availability of a business center, location of the hotel, fitness center/spa, total number of rooms in the hotel, room size, and view from room also significantly determined the room rate.

Limitations: Booking.com, as the most popular Online Travel Agent (OTA) used in Sri Lanka, it was assumed that the information is frequently updated. The study was extended for the hotels in the Colombo district, and hence, the results were based on the point data, which may not be an islandwide representation or year through data.

Contribution: As theoretical applications are underused in pricing and revenue decisions in the Sri Lankan hotel sector, results will lead to advance the decision making of practitioners, and this study will be a complement to the lack of literature in the field of revenue management in Sri Lankan context and may encourage future researchers laying an inspiring beginning.

Keywords: Revenue management, Room rate, Attributes, Hotel, Determinant

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1. Introduction

The price a customer has to pay for the accommodation in hotels has a considerable deviation. In practice, the competitive hotels in the same classification, in the same destination, even charge different rates for a one-night stay for a couple in a double room at a given point in time. Guests also probably do not possess the precise and sufficient insights on these diverge. Thrane (2005) emphasized the importance of a multidimensional concept of quality associated with hotel prices in a more or less linear fashion: a higher quality equals a higher price. Simply, the price differences are

used to indicate the quality differences among hotels. In the real situation, the existence or non-existence of different hotel elements (e.g., a spa, a restaurant, a central location etc.) will be among the dynamics that most people will anticipate to stimulus hotel room prices. In addition, it stands to reason that lodging in hotels possessing many desirable attributes will be more expensive than lodging in hotels in which few or no such attributes are presented. Accordingly, the guest's amount and the amount ready to pay by the guest will be functionally determined. Hence, it is essential to examine how the number of different hotel attributes will clearly disclose the variation in room rates for different room categories in a given period.

From the guest's point of view, a guest typically anticipates something additional in return for the amount they pay for the accommodation experience in a hotel. Thus, the whole hotel experience will, apparently, in some sense, differ depending on the given price by each individual since the guests look for a bit of additional than just a general staying at a hotel. On the other hand, the guests may feel unhappy when they have paid higher than the others for the same product and service.

Hotel prices are determined by the combination of property and other selected market characteristics ([Corgel, Liu, & White, 2013](#)). Hence, determining the hotel room rates based on such hotel characteristics and attributes may reduce the unscrupulous price competition among the hoteliers. Further, the characteristics identified from different destinations and countries may vary from each other based on the location and hotel category ([Napierala & Lesniewska, 2014](#)). Hence, a lack of understanding of the relationship between prices and different attributes would make it difficult to establish a proper platform for competitive positioning and insinuate whether the price charged matches the service and value created for customers ([Díaz et al., 2018](#)). Consequently, the ongoing room rates of hotels in Sri Lanka are made identically on which characteristics and attributes are yet to be checked. Moreover, the most important elements that affect the room rate are to be discovered to avoid unfair practices and make the industry more profitable and attractive. Consequently, this study was carried out to identify the impact of different hotel attributes on the room rate of hotels.

2. Literature review and hypotheses development

Determinants of hotel room rate

According to the classic hedonic pricing literature on room rate determinants, there are three classifications in price determinants: physical, locational, and neighborhood ([Paschalis and Ioanna, 2017](#)), where some researchers have identified the characteristics in premises and the room itself. [Zhang et al. \(2011\)](#) has categorized the variable on pricing decisions as; a). site factors, and, b). situational factors, whereas site factors included star rating, brand, hotel size, chain affiliation, and associated services, situational factors included distance to transportation hubs, city centers, and tourist attractions. Moreover, [Abrate and Viglia \(2016\)](#) developed a theoretical model with tangible variables (consisted of site factors), reputational variables (included star rating), and social media reviews, whereas contextual factors were constructed with location and competitive environment.

The star category of the hotel was implied as one crucial element since it has rated according to its quality and the overall facilities it offers to the visitors ([Paschalis and Ioanna, 2017](#); [Pawlicz and Napierala, 2016](#); [Castro & Ferreira, 2015](#); [Anderson, 2014](#); [Kefela & Blomskog, 2014](#); [Anderson, 2013](#); [Thrane, 2005](#); [Israeli, 2002](#);). Apart from the star category, facilities such as bath tub in the room ([Anderson, 2013](#); [Monty and Skidmore, 2003](#)), ownership ([Işık & Bilici, 2016](#); [Ivanov, 2014](#); [Hung et al., 2010](#); [Thrane, 2007](#)) room size ([Kefela & Blomskog, 2014](#); [Monty and Skidmore, 2003](#)), provision of breakfast ([Işık & Bilici, 2016](#); [Kefela & Blomskog, 2014](#)), minibar in the room ([Kefela & Blomskog, 2014](#)), free cancellation option ([Kefela & Blomskog, 2014](#)), average room size ([Işık & Bilici, 2016](#); [Castro & Ferreira, 2015](#); [Kefela & Blomskog, 2014](#)), number of guest rooms (hotel size) ([Castro & Ferreira, 2015](#); [Kefela & Blomskog, 2014](#); [Coenders et al., 2003](#); [White and Mulligan, 2002](#)), availability of an LED/ LCD TV in room ([Işık & Bilici, 2016](#); [Chen and Rothschild, 2010](#)) complimentary car parking ([Thrane, 2007](#)), and locational attributes such as hotel view ([Paschalis & Ioanna, 2017](#); [Fleischer, 2012](#)), distance from the city center and location of the hotel ([Işık & Bilici, 2016](#); [Castro & Ferreira, 2015](#); [Kefela & Blomskog, 2014](#); [Zhang, Anderson, 2013](#); [Ye, and Law,](#)

[2011](#); [Shoval, 2006](#); [Monty and Skidmore, 2003](#)), as well as booking period/ season ([Monty and Skidmore, 2003](#)), and service quality ([Castro & Ferreira, 2015](#)) as significant determinants in room rate decisions. Additionally, [Paschalis and Ioanna \(2017\)](#) found that the review given by the visitors to the hotel and [Işık & Bilici \(2016\)](#) as Wi-Fi, shuttle, conference room, restaurant, night club, fitness center, and fax/copier) are significant elements on the price of tourist accommodations.

However, [Monty and Skidmore \(2003\)](#), as well as [Thrane's \(2007\)](#), presented the hotel size as an insignificant element in room pricing, whereas scenic view is insignificant ([Monty and Skidmore, 2003](#)) while [Kefela & Blomskog \(2014\)](#) presented free parking and 24 hours room service as insignificant in room rate decision. Moreover, [Pawlicz and Napierala \(2016\)](#) indicated the location within the city center and proximity to the international airport as high but still underestimated impact on the theoretical hotel prices. Hence, [Kefela & Blomskog \(2014\)](#) have suggested that selecting the independent variables and empirical evidence of their impact depends on the scope, purpose, and precise nature of the study. [Anderson \(2013\)](#) has highlighted that the results may be different in developing and developed countries where the institutional context is different. Hence, it recommended conducting follow-up researches in such countries.

Moreover, [Anderson \(2014\)](#) has suggested that the surrounding of the building and its historical characteristics are also critical determinants of hotel room pricing. [Ruijgrok \(2006\)](#) also has shown that 15 percent of the property value is generated from the historical characteristics of buildings and their surroundings. Hence, the location of the hotel or the landmarks nearby and the hotel's location in the city also may cause to determine the price of a room since the willingness to pay by guests can be higher.

With the rapid growth of technology, the internet was increasingly used to disseminate information to potential customers and record room reservations ([Schwartz & Cohen, 2004](#)). Hence, in most recent studies, the internet was the most important data source for hedonic pricing research in hospitality studies, more specifically the OTA data, mainly due to their comparability and availability ([Pawlicz & Napierala, 2016](#)). One of the key advantages of extracting data from OTAs is that they deliver information about hotels in a consistent format ([Andersson, 2010](#)), while in addition, they include measures of information about both the hotel itself and its [location \(Pawlicz & Napierala, 2016\)](#). [Ivanov \(2014\)](#) also has recommended the OTAs to collect data for revenue management studies suggesting it as the second most crucial distribution channel for accommodation establishments after direct sales. For example, [Andersson \(2010\)](#) has used Hoteltravel.com, whereas hotels.com has been used by [Kefela & Blomskog \(2014\)](#) and [Anderson \(2013\)](#), and booking.com by [Ivanov \(2014\)](#).

Modeling of pricing determinants

The application of R.M. in the hotel industry has mainly optimized room revenue potential from existing demand. The fitness of products for the application of revenue management is determined by a combination of the characteristics of customers and product features that include a relatively fixed and perishable capacity of the product and customers who have a diverse willingness to pay ([Kimes & Wirtz, 2003](#)).

Researchers have studied hotel pricing and room rate determinants in different places around the world. They have suggested the hedonic pricing theory as an appropriate theoretical base for those studies. The academic literature in Hedonic Pricing Theory dates back to 1939, and it was initially applied in the automobile industry ([Kefela & Blomskog, 2014](#)). It was developed as a common model for most of the other industries, such as housing, automobiles, computers, Bordeaux wine, real estate, and various aspects of the tourism and hospitality industry ([Thrane, 2005](#); [Thrane, 2007](#); [Andersson, 2010](#); [Chen and Rothschild, 2010](#)). [Rosen \(1974\)](#) was one of the first researchers who discussed hedonic pricing applications, and he has suggested that "*goods are valued for their utility-bearing attributes or characteristics*". Researchers have used hedonic pricing mostly in real estate economics, especially to determine the house value based on different house-specific variables such as the

number of bedrooms or bathrooms ([Anderson, 2013](#)). Further, the same method has been used by various researchers in different countries in different sectors to determine the pricing determinants.

3. Research methodology

Methodology

The study was intended to identify the impact of various hotel attributes on room rates in star-graded hotels in Colombo district, Sri Lanka. Data were collected from booking.com, the most popular and commonly used OTA in Sri Lanka, and the same was frequently recommended in the literature. Aligning with the literature, the best available rate (BAR rate) inclusive of value-added tax for a double room with breakfast (B.B. basis) for a one-night stay for two guests was considered to standardize the comparisons ([Fleischer, 2012](#); [Schamel, 2012](#); [Abrate and Viglia, 2016](#); [Pawlicz and Napierala, 2016](#)). The hotel room rates were collected for the checking date of 20 September 2018, and it was a randomly picked date. Moreover, there was no difference in room rates for the weekdays and weekends during the month of September, and the same rates were given on booking.com for the entire month. Hence, the researcher collected data only at one point during the period. This date was selected to minimize the waves on the price due to the seasonality and special events in the area during the year to avoid the impact on room rates from such incidents ([Pawlicz & Napierala, 2016](#); [Ivanov, 2014](#)). The room rates were measured in Sri Lankan Rupees (LKR) and the rate indicated as the net room rate, which included the tax and service charges. Referring to [Kefela & Blomskog \(2014\)](#), the researchers used the room rate of several room categories during the data collection to neutralize the heterogeneity induced by the variation in room characteristics within a given hotel much as possible. Accordingly, standard double room, superior double room, and deluxe double room were included, whereas executive rooms and all suites and apartments were excluded. However, a total of 68 observations were included in the final study. As the hotels make a substantial investment in establishing and maintaining the property, each of such elements is considered in setting prices. Hence, the hotel attributes were grouped under amenities, quality signals, and location in a broader perspective. Accordingly, the model was developed and explained in the next section.

Model development

Independent variables include both quantitative and qualitative characteristics to determine room rates in the star-graded hotel market in Sri Lanka. The quantitative characteristics were measured in square meters for the room size, the number of rooms, and kilometers for the distance. To develop the semi-log regression model, the current study utilized slope dummy variables for every qualitative characteristic coming under the independent variables to capture the possible differences in room prices that are changed due to each hotel attribute. The dummy variables take 0 or 1 depending on the presence or absence of each qualitative attribute in the hotel. Accordingly, the model was developed as given below.

$$\ln \text{RMRATE} = \beta_0 + \beta_1 \text{BATHTB} + \beta_2 \text{MINBAR} + \beta_3 \text{FRWIFI} + \beta_4 \text{BUSNC} + \beta_5 \text{DIFFFC} + \beta_6 \text{FITNES} + \beta_7 \text{SPORTS} + \beta_8 \text{LAUNDR} + \beta_9 \text{STARGR} + \beta_{10} \text{NORUM} + \beta_{11} \text{CHAINA} + \beta_{12} \text{ROOMSZ} + \beta_{13} \text{VISITRA} + \beta_{14} \text{DISAIR} + \beta_{15} \text{DISCIT} + \beta_{16} \text{RMVIEW} + \varepsilon$$

However, a free Wi-Fi facility was available in each hotel in the study sample. Therefore, it was removed from the model. Further going on the analysis, the availability of minibar in the room was removed due to the occurrence of multicollinearity effect in the model. Hence, the model can be presented as follows with fourteen items.

$$\ln \text{RMRATE} = \beta_0 + \beta_1 \text{BATHTBi} + \beta_2 \text{BUSNCi} + \beta_3 \text{DIFFFCi} + \beta_4 \text{FITNESi} + \beta_5 \text{SPORTSi} + \beta_6 \text{LAUNDRi} + \beta_7 \text{STARGRi} + \beta_8 \text{NORUMi} + \beta_9 \text{CHAINAi} + \beta_{10} \text{ROOMSZi} + \beta_{11} \text{VISITRAi} + \beta_{12} \text{DISAIRi} + \beta_{13} \text{DISCITi} + \beta_{14} \text{RMVIEWi} + \varepsilon$$

The Ordinary Least Squares (OLS) method was used to estimate the room rates by regressing a set of independent variables on the dependent variable (price), followed up by simple t-tests that determine whether selected variables are statistically significant or not. Accordingly, this log-linear hedonic regression model indicates that the natural log of room rate (price) is a function of the unlogged values of the independent hotel characteristics (amenities, quality signals, and location). Three

traditional diagnostic tests (for multicollinearity, misspecification, and homoscedasticity) were carried out to increase the regression results' statistical validity, avoiding diagnostic errors and problems.

4. Results and discussions

At the time of data collection, all 33 star-graded hotels (One Star to Five Star) located in the Colombo district were selected for the study. However, most hotels offered more than one package, such as standard rooms, deluxe rooms, superior rooms, etc., with different room rates, where at least one of the considered variables varied (often room size, room view, etc.). The total number of observations in this study almost reached 68. Although the published room rates of hotels in booking.com (the considered OTA for data collection) were wide-ranging, there was no difference between weekday rates and weekend rates in each hotel. The room rates of the hotels were fallen between Rs. 5181.00 to Rs. 33,868.00 irrespective of the star classification. However, hotels in Colombo have to adhere to the government regulation on room rate laid as five-star hotels – \$125, four-star hotels – \$95, three-star hotels – \$75, two-star hotels – \$60, and one-star hotels – \$45 as given by Sri Lanka Tourism Development Authority (SLTDA) (revised rates) in 2011 March by Extraordinary Gazette No 1622/1. Hence, it is not disputable that the overall hotel experience and the guest facilities depend upon the room rate and the class.

Table 1. Descriptive statistics of the coefficients (N= 68)

	Mean	Std. D
Logged price	9.78900	0.472624
BB Room Rate	19,735.49	8,391.63
Math Tub	0.53	0.503
Business center	0.68	0.471
Differently Abled Facilities	0.53	0.503
Fitness Center/ Sauna/ Spa	0.84	0.371
Sports Facilities	0.38	0.490
Laundry facilities	0.87	0.341
Star Grade	3.22	1.464
Number of Rooms in the Hotel	180.19	148.958
Chain affiliation	0.75	0.436
Room size	28.81	7.924
Booking.com star rating	4.36	1.911
Distance to the international airport	33.1072	5.76432
Distance to the city center	5.1853	4.07446
The room has a view	0.82	0.384

Source: SPSS output on survey data, 2019

Table 2 explains the descriptive statistics of the model. The average room rate was reported as Rs.19,735.00 (M=19,735, SD=8,391.63), and the average number of rooms is 180 with SD=148.958. The average room size was reported as 28.81m² with SD=7.924m². The hedonic pricing regression model was estimated to measure the effect of selected determinants on the room rate and is given below in table 3.

Table 2. Model summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Durbin-Watson
	0.926	0.857	0.819	0.200892	1.312

Source: SPSS output on survey data, 2019

The multiple correlations of the hedonic regression $R = 0.926$ indicate a strong association between the selected pricing determinants and the room rate of the hotels. The R^2 value of 0.858 indicates that the model has covered 85.8 percent (nearly 86%) of the dependent variable. Moreover, adjusted R square has represented 81.9 percent (almost 82%) of the dependent variable that the model has covered. As the value is more than 60 percent, the regression model is nicely fitted.

Table 3. ANOVA results of the regression

ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.827	14	0.916	22.702	0.000
Residual	2.139	53	0.040		
Total	14.966	67			

Source: SPSS output on survey data, 2019

The probability of F test statistics of the regression ANOVA is highly significant with $P = 0.000$. This means that the model is jointly significant. Therefore, the independent factors jointly influence the room rate. Coefficients of the regression model presented eight cases with $P > 0.05$. However, the researcher suggests that a total of eleven coefficients of determinants are significant with $P > 0.05$ under the 90 percent (90%) confident level. Accordingly, three of the determinants were rejected from the model as insignificant with greater associated P values ($P > 0.1$) and redundant in the analysis.

Table 4. Regression results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.288***	0.291		28.524	0.000
Bath Tub	-0.066	0.062	-0.070	-1.068	0.291
Business center	0.252**	0.096	0.251	2.610	0.012
Differently Abled Facilities	-0.201**	0.087	-0.214	-2.307	0.025
Fitness Center/ Sauna/ Spa	0.195*	0.113	0.153	1.727	0.090
Sports Facilities	0.030	0.078	0.031	0.386	0.701
Laundry facilities	-0.186**	0.091	-0.134	-2.037	0.047
Star Grade	0.168***	0.049	0.521	3.440	0.001
Number of rooms in the hotel	0.001**	0.000	0.302	2.576	0.013
Chain affiliation	-0.132*	0.074	-0.122	-1.788	0.080
Room size	0.013**	0.005	0.224	2.484	0.016
Booking.com star rating	-0.011	0.028	-0.045	-0.405	0.687
Distance to the international airport	0.017**	0.007	0.208	2.379	0.021
Distance to the city	-0.035***	0.010	-0.306	-3.503	0.001

center					
Room has a view	0.155*	0.092	0.126	1.681	0.099

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Dependent variable- logged price

Source: SPSS output on survey data, 2019

According to table 5, those three insignificant variables which were excluded from the model can be given below.

- Availability of bathtub in the room
- Availability of sports facilities in the hotel
- Visitor rating of the hotel on Booking.com

Hence, after removing the insignificant items, the hedonic pricing regression model on room rate can be presented as given below.

$$\ln_RMRATE = 8.282 + 0.252 (\text{BUSNC})_i - 0.201 (\text{DIFFFC})_i + 0.195 (\text{FITNES}) - 0.186 (\text{LAUNDR})_i + 0.168 (\text{STARGR})_i + 0.001 (\text{NORUM})_i - 0.132 (\text{CHAINA})_i + 0.013 (\text{ROOMSZ})_i + 0.017 (\text{DISAIR})_i - 0.035 (\text{DISCIT})_i + 0.155 (\text{RMVIEW})_i + \varepsilon$$

Availability of business center facilities

Accordingly, hotels with business center facilities were 29 percent (28.7%) expensive than the hotels without the business center facilities ($(e^{*0.252})-1$). Hence, the availability of business center facilities in Colombo hotels can be a major consideration when deciding the room rate. Higher demand from business customers in the Colombo area hotels can be a reason for this. However, the business center facility is one of the under-researched and neglected determinants in most of the other studies.

Availability of differently abled facilities

The impact of the availability of differently-abled facilities on the room rate in Colombo hotels was a bit controversial. Although the other researchers did not much use it to check the impact on the room rate as a determinant, the researcher decided to use this since it is one of the moving trends in the hospitality sector. As per the gazette notification on No. 1963/28 - 20 April 2016 regarding the criteria for hotel classification in Sri Lanka, a total of 50 marks are allocated for the availability of facilities for differently-abled guests. However, the results implied that the hotels with differently-abled facilities were 18 percent (18.2%) cheaper than the hotels without those facilities. The majority of the hotels reported that they have wheelchair access to the rooms with elevator facilities. Hence, the hotels may not have invested extra money to develop specifically organized facilities that focus on differently-abled guests yet. This may be a reason for not adding an extra charge over the room rate for these facilities. [Ivanov \(2014\)](#) has found a negative impact on room price for the availability of a swimming pool, free parking, and conference room facilities in the hotel. Further, [Kefala and Blomskog \(2014\)](#) indicated a negative relationship on the room rate by twenty-four hours room service facilities.

Availability of fitness center/Spa

Hotels with fitness center/spa facilities are 22 percent (21.5%) more expensive than hotels without that facility. [Iliina \(2015\)](#) has highlighted that health and beauty services (beauty parlours, massage rooms, fitness studios, gyms, swimming pools, spa salons and saunas) in a hotel are essential for the proper positioning among the rivalries. Generally, the hotels located in the Colombo district are considered as transit and semi-transit type business. Hence, the business customers may consider these facilities since that would help them get rid of daily stress of their formal works since these guests have a limited time to engage in other recreational activities.

Availability of laundry facilities

Availability of dry-cleaning and laundry services in a hotel is also considered as a type of facility that can be used for better positioning among the rivalries ([Iliina \(2015\)](#)). Regression results of the study indicated that the hotels with the laundry facility are 17 percent (17.0%) cheaper than the hotels without laundry facilities. A hotel that has a laundry facility may run with lower operational costs

(although the fixed cost is higher, the variable cost is lower) than others for offering the facility. Such hotels may have the possibility to earn an extra income by offering dry-cleaning and laundry services for their residential guests.

Official star grade of the hotel

Results indicated a noticeable impact on the room rate from the star grade of hotels which is significant at 99% confidence level ($P=0.001$) with $B=0.168$. Accordingly, the guests have to pay 18 percent (18%) additional for the hotels with one more star grade when all the other variables that might affect on room rate remain constant. Consequently, one-star hotels are 18% cheaper than 2-star hotels, and 5-star hotels are 72% expensive than one-star hotels (0.18×4).

Number of rooms in the hotel

The number of rooms available in the hotel was checked in hedonic regression for the room rates. Results revealed that room rate tends to increase by 0.1 percent (0.1%) when the number of rooms is increased by one, assuming all the other determinants remain constant. A hotel with 100 rooms maybe 5 percent expensive than a hotel with 50 rooms ($(0.001 \times 99) - (0.001 \times 49)$), and a hotel with 500 rooms will be 25 percent expensive than a hotel with 250 rooms. [Kefala & Blomskog \(2014\)](#) have indicated a controversial result in Stockholm, Sweden, as the larger hotels are cheaper than smaller hotels (in terms of the number of rooms). They further explained that a hotel's room rate with 500 rooms cheaper 0.4 percent (0.4%) than a hotel with 100 rooms. Higher operational costs and higher facilities available in larger hotels compared to smaller hotels may be a reason for having higher rates for larger hotels in Colombo. Additional in-room amenities and guest facilities with additional employees for operational, administrative, and maintenance of the facilities may cost to the larger hotels compared to the smaller ones. Confirming the results of the current study, [Pawlicz and Napierala \(2017\)](#) and [Corgel et al. \(2013\)](#) have indicated a similar impact from the number of rooms on room rate for hotels in Poland and the U.S., respectively.

Type of ownership of the hotel

The type of ownership was examined as to whether the hotel is chain affiliated or not. The results indicated that the chain-affiliated hotels were 12 percent (12.4%) cheaper than the hotels with independent ownership. This is contradictory to the results of [Thrane \(2007\)](#) at Oslo (Poland). He found that the single rooms of the chain-affiliated hotels in Oslo as 15 percent expensive than the independently owned hotels when other variables remain constant, whereas a double room does not have any impact from chain affiliation. He further highlighted the results of [Israeli \(2002\)](#), who had similar findings as chain affiliated hotels are expensive than independently owned. [Ivanov \(2014\)](#) has also got similar results as Thrane. He found that the chain affiliation does not influence the weekday rates. In contrast, weekends are 7% expensive for non-refundable room rates and 9% expensive for rooms with free cancellation facilities. However, Colombo hotels have indicated contradictory results from the other countries. They may plan their room rates to attract more customers, focusing on a good brand reputation and brand loyalty and offering lower rates.

Room size

Room rates for hotels with larger room sizes were a bit expensive than those with smaller rooms. Holding constant the influence from other variables in regression model, star graded hotels located in the Colombo district charge 1.3 percent (1.3%) higher for every square meter increase in room size. [Kefala & Blomeberg \(2014\)](#) had similar results as 1.6 percent (1.6%) additional charge for increasing square meters in room size. Accordingly, the larger the hotel room, the higher the room rate is a competitive decision and justifiable.

Distance to the international airport

Distance to the Bandaranaike international airport (BIA) from the hotel was identified as a significant determinant of room rates in Colombo hotels and indicated a 1.7 percent additional rate when the distance increases by one kilometer. A hotel located 20kms away from BIA can be 17 percent (17%) expensive than a hotel located 10kms away from the BIA when all other model determinants are

constant. [Kim et al. \(2018\)](#) also found similar results for the impact on room price from the shortest road network distance from the hotel to the nearest airport in Chicago, suggesting lower prices for hotels located close to the airport. [Napierala & Lesniewska \(2014\)](#) found a significant impact on room rate from the distance from nearest transport node in their study on location-based determinants of accommodation prices in Lodz Metropolitan Area (Poland). However, they have found a negative impact from the distance from the nearest transport node on the accommodation prices suggesting higher prices at a shorter distance. [Pawlicz & Napierala \(2017\)](#) also recognized that the airport's impact on hotel prices is a significant determinant in room pricing decisions.

Distance to the city center

Distance to the hotel from the city center was a viral determinant among the researchers who used hedonic pricing regression to identify room rate determinants. The current study on Colombo indicated that hotels closer to the city center are expensive than hotels located far from the city center at a 99% confidence level ($P=0.001$). A hotel will be 3.4 percent (3.4%) cheaper when it is located an additional kilometer away from the city center. Accordingly, a hotel located 10 kilometers away from the city center will be 17 percent (17%) cheaper than a hotel located 5 kilometers from the city center.

[Ivanov \(2014\)](#) has pointed out similar results for the impact of distance from the city center to hotel on room rate, confirming [Lee & Jang \(2012\)](#). [Zhang, Ye & Law \(2011\)](#) indicated a significant impact on room rates from a convenient location for midscale hotels. Further, [Pawlicz & Napierala \(2017\)](#), [Thrane \(2007\)](#), [Kim, Jang & Kang \(2017\)](#), and [Kefala & Blomskog \(2014\)](#) also found that increasing distance to the hotel from the city center lowering the room rate. [Sainaghi \(2011\)](#) has confirmed that the centrality of the hotel location is a significant determinant of RevPAR in Milan. Further, [Shoval \(2006\)](#) has found that hotels that were located in downtown Jerusalem typically charged higher room rates than those located in the suburbs.

Hotel room having a view

The view from the hotel room was used as a determinant of room rate by the number of researchers ([Paschalis & Ioanna, 2017](#); [Masiero, Pan & Heo, 2016](#); [Masiero, Pan & Heo, 2015](#); [Monty & Skidmore, 2003](#); [Bull, 1994](#); [Paschalis and Ioanna, 2017](#); [Latinopoulos, 2018](#)). The current study on star-graded hotels in Colombo has indicated a significant positive impact on room rate of view (from hotel room). Consequently, a hotel room with an outside view appeared 17 percent (16.77%) more expensive than rooms without a view. According to [Masiero et al. \(2015\)](#), hotel guests in Hong Kong are willing to pay HK\$771 more (per room per night) for a harbor view compared to a room with a city view. Accordingly, the result of the current study is relatively unswerving with the literature.

5. Conclusion

This study identified whether and how different hotel attributes are associated with room rates in the Colombo district of star-graded hotels. All the hotels graded from one to five stars located in the Colombo district were studied. According to the results, eleven key determinants of the room rate in star-graded hotels illustrated positive impact from seven determinants and the negative impact from four determinants. Hotel class or star grade was the most significant determinant in the room rate, which generally determines the pricing behavior and service quality and most of the attributes and characteristics in a hotel. HPM proposed a positive impact on room rate by the availability of a business center in the hotel, availability of fitness center/ spa, a total number of rooms in the hotel, the room having a view, and room size. The distance to the city center indicated a negative impact on room pricing, while the distance to the international airport positively impacted the room rate. Surprisingly, differently-abled facilities negatively impacted room rate, laundry facilities' availability in the hotel, and type of ownership/ chain affiliation. Similarly, the negative impact on room rate has been found by different researchers by the availability of some facilities and services such as availability of swimming pool and twenty-four hours room service.

Recommendations

The star rate is one of the critically significant factors in room pricing, whereas the online rating is not that important. Hence, the management should always try to continuously maintain the obtained star grade without letting it go down. The star grade provides hints on the set of available facilities and services in the property. So that, the management should maintain the necessary level of all guests facilities and service quality in every aspect. For example, if the hotel rooms are tiny, if the hotel is located outside the city center and isolated from main transport nodes and international airport, and maybe no around-the-clock room service is available in the hotel, the hotel should charge a reasonably lower price compared to a hotel which offers all of this – if everything else (i.e., star category, in-room amenities, etc.) is the same ([Anderson, 2013](#)). Consequently, it might be deemed discriminative if revealed to the guests that the hotel has charged higher for certain guests compared to others.

The current study results presented some insignificant attributes, such as the availability of bathtubs, sports facilities, and others. Furthermore, some of the common facilities were excluded from the model (i.e., availability of Wi-Fi facilities) to ensure the model validity. However, these determinants cannot be totally neglected since these facilities are widely available in hotels due to the growing competition. Hence, most of these facilities or amenities used in the literature, such as swimming pool, hairdryer, bathtub, minibar, flat-screen T.V. in the room, and others, have become more fundamental facilities regardless of the star grade. This study has concerned only the availability of such facilities, not the quality. Therefore, hoteliers should not forget the service quality, cleanliness, and other facilities' quality when making pricing decisions. Deciding the rate for a particular day for a particular hotel room is a complex phenomenon. Booking a hotel room by a guest means much more than merely going to sleep. Therefore, the hoteliers must concern all the pricing elements by putting themselves into the customers' shoes. The hoteliers should further seek to appeal to the target market by highlighting the attributes they offered and identified in the study as significant, such as star grade, availability of facilities,

No hedonic model can claim that all relevant attributes have been included or that the chosen functional form for the regression equation is the most appropriate one ([Carvell & Herrin, 1990](#)). However, as a beginning, this is an interesting first step in the Sri Lankan hotel industry and more research works should be extended to ensure industry sustainability shedding more light on the plausibility of the findings.

Limitations and study forward

This study was focused only on the star-graded hotels in the Colombo district. Hence, other categories of hotels that are not classified under star grading and hotels in other districts in the country were not studied to avoid the impact on room rate due to the locational changes and classification changes. Further, the revenue manager position was available only in a few hotels in the selected sample, and the management was highly concerned about the confidentiality of their strategies. Hence, the reliability of the study depends upon the accuracy of the data provided by the management. The study was conducted during a specific period in the year, avoiding special events and seasonality impacts. Accordingly, the regression of the study was confined only to the net room rate for one night for a double room with B.B. (Bed and Breakfast) basis at a certain period. Hence, different samples, including other room bases and variables in different seasons, room rates during events and special offers, or comparative analysis between two periods may produce significantly different results.

Secondary data in this study was collected from a popular online travel agent booking.com. These sites may not have been updated regularly and thus may not represent the reality of each unit in the sample with accurate data. Further, the displayed rate may have deviations with the actual room rate for the selected days due to some promotions, discounts, and special offers and thus necessarily may represent the definite room price. The selected OTA may have given special rates than the competing OTAs, so if the researcher has selected a different OTA such as agoda.com, expedia.com, and others, the results may be significantly different.

There is a number of hotel characteristics and amenities that might determine the room rate. The researcher has selected only fourteen of them. Hence, the other hotel characteristics and amenities may generate preferably mixed results compared to the results of this study. Moreover, most of the variables used in the study are qualitative and represented as dummy variables using 1 and 0 values to represent the absence or presence of the particular variable. This may not represent the most important quality signals about the attributes such as size, shape, uniqueness, safety, design, etc.

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