

Factors Influencing Hotels' Room Charges: A Case of Rawalpindi-Islamabad in Pakistan

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Abstract

The hotels charge various prices for rooms rented even in same locality and this is because of the fact that they provide various services for their customers. Customers also consider various characteristics when booking a hotel. Some hotels have more facilities than others. This study estimates the impact of various influencing factors on the room rates of hotels in Islamabad and Rawalpindi. We applied hedonic pricing model and used panel primary data obtained from 20 hotels for the time period 2010 to 2015, through questionnaire. We applied panel data technique namely random effect model. The results show that the star rating, availability of shuttle bus service within and outside the city, average number of conferences, gym, security guards, hotel location, online reservation, presence of garden and cafe have significant impact on hotel room rates. Online reservations, hotels located within city center and distance from airport have negative relationship with hotel room rates. The hotel owner should give priority to the security related attributes for customer satisfaction. The results of this paper will also be helpful for other hotels in Pakistan to consider the hotel attributes while charging for room rates.

Keywords: Hotel Charges, Environmental attributes, hedonic models, Tourists, socioeconomic factors

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1. Introduction

The arrival of foreign tourists in Pakistan is increasing day by day. Pakistan achieved a record growth in tourist arrivals of number of tourists in the year 2005, 798260 to be specific, from all tourist generating markets, which is 23.3 percent increase from the year 2004. Pakistan's share in the region of tourism has increased from 8.6 percent in the year 2004 to 10.1 percent in the year 2005. In addition about 42 million domestic visitors traveled within the country in the year 2005 (Samina & Mehmood, 2006).

Islamabad is the capital city of Pakistan where there are a number of hotels for national and international customers. Customers consider various characteristics while booking a hotel. Some hotels have more facilities than others. Definitely, the absence or deficiency of required characteristics, for example hotel services, star rating and proper location of hotel are expected to have vast effect on room rates. On the other hand, People book hotels not only to spend times but also for enjoyment, pleasant atmosphere and change. At the time of booking, they take into consideration several characteristics of hotels and desire a mixture of these characteristics in their decisions of booking. This raises the question of why hotel room rates (sometimes in the same location) vary from each other and another question is why, despite the price difference; some lodgers would choose to lodge in a hotel with higher room rates.

The customers are then charged differently even in same region. In the year 2015, the price of one night stay of double bedroom in Marriott hotel Islamabad is 22884 PKR whereas Serena hotel also located in Islamabad but charging 23200 PKR of one night stay. Envoy continental in Islamabad charging per night stay for double bedroom 9500 PKR. Similarly, Islamabad hotel is charging 19720 PKR for double bedroom one night stay.

Hotel price is not only of only room, but it also includes the services and facilities which customers enjoy during their stay. This is a difficulty with the hotel price because hotel prices are package prices and it does not present the facilities or characteristics of prices differentially. Pricing is an issue of utmost importance for practitioners in the hospitality industry. It is the only element in the lodging marketing that impact directly on revenues (Kotler, Leong, & Tan, 1999). Hedonic price models have been used to deal with the package price it enables us to break the package price into



prices of each characteristic included in the package. In earlier studies the hedonic price model used for getting the implicit prices of different items in case of automobiles, Bordeaux wine, computers, in the hospitality industry and tourism (Andersson, 2010; Chen & Rothschild, 2010; Thrane, 2005, 2007). This model has also been used to estimate the determinants of hotels prices in Southeast Asian city-state Singapore (Andersson, 2010), the Norwegian capital Oslo (Thrane, 2007) the Southeast Asian city-state Singapore (Andersson, 2010), and the Taiwanese capital Taipei (Chen & Rothschild, 2010). To achieve the objective of finding the implicit prices for the individual attributes, hotel room pricing can be studied from both demand-side and supply-side perspectives.

Several hotel attributes took into consideration by different authors that can affect room rates, such as the location of hotel (Thrane, 2007), facilities and amenities (Alejandro García-Pozo, Sánchez-Ollero, & Marchante-Mera, 2013; A García-Pozo, Sánchez-Ollero, & Marchante-Lara, 2010), service quality (Grobelna & Marciszewska, 2013), star rating (Andersson, 2010) and atmosphere of the hotel (Juaneda, Raya, & Sastre, 2011). Because every country has its own geographical and demographical circumstances, therefore the findings of each study vary from others. Moreover, within city every hotel charges different prices because service quality, location and purpose of the visits also affect the room prices. Apart from the conventional variables mentioned in literature, this study also estimates the effect of socioeconomic and environmental variables on room prices in Islamabad and Rawalpindi. This study also applies the hedonic price model in supply side perspective and assesses how hotels charge different rates with providing certain facilities.

Besides, this study tests the hypotheses that whether hotel attributes affect the room rates of hotels and do increase in the security measures leads to increase room rates of hotels.

Hotel industry in Pakistan is facing numerous challenges. By addressing these and other problems and solving them, our assets can be capitalized for the advancement of tourism and economic development in the country.



2. Study Site

Being the Pakistan's capital of since Sixties, according to a very unify plan Islamabad was fabricated. Islamabad is protected by the Himalayas, Margalla Hills, and the home-grown of exceptional species, birds, deer, and even porcupines. Numerous rock climbing and ice climbing paths, and Daman-e-Koh, which have splendid view of whole city, Rawal Dam and even Faisal Mosque, biggest in South Asia (Pakistan Tourism Development Cooperation 2013). Rawal Lake is famous tourist place that fulfils the need for water in Islamabad and Rawalpindi. This artificial lake covers the area of 8.8 sq. km. Tourist come here for diving, boating and water skimming services. Islamabad has rich places for tourist interest comprising of various art galleries and museums. There are 78 famous hotels in Islamabad in which 21 hotels are those which are assigned as 3-4 stars. There is no 5-star hotel in *Pakistan* (Pakistan Tourism Development Corporation, 2015).

Rawalpindi is within the drive of 15 minutes from Islamabad and is an energetic active town full of Bazaars and bouncing life. People want to spend holidays there and they have a lot of variety of goods from gorgeous carpets to Kashmir silver which they can purchase.

Apart from the tourists, people also visit Islamabad and Rawalpindi for other purposes such as business, visas and treatment in hospitals. But in these hotels, majority of the customers are tourists. Similarly, the important tourist site, Murre is close to Islamabad and majority of the outside visitors visit it through Islamabad.

3. Theoretical Background

Usually, hedonic models assume as somewhat that closely link with pleasure or dedicated to pleasure. Therefore, the hedonic method was frequently used to estimate the price of different characteristics of numerous goods/services. Rosen (1974) described that a class of discriminated products is fully defined by a vector of objectively measured features. Observed product prices and the precise volumes of features linked with each good express as a set of "hedonic" prices or implicit prices. For the valuation of any product many internal and external factors are involved which change the value of that product. Hence a set of hoteling attributes are taken into account. Attributes of any product can be sale with the product, cannot be sold solely. Because a



combination of various attributes will be purchased. The hedonic approach hence signifies an effort to evaluate the value of characteristics of any product on the source of market values (Rosato, Rotaris, Breil, & Zanatta, 2008). Therefore, in the hedonic pricing, the compositions of any item (product) or service which is known as characteristics or attributes look to be very important.

Most of the studies considered Rosen's 1974 classic article as the basis of hedonic studies but Court (1939) was the first economist who constructed the hedonic index for automobiles. It was Court (1939) who actually invented the hedonic term, in recognition of the "Probable contribution of any product, a motor car in this case, to the pleasure and welfare of its purchasers and public (Goodman, 1998). Identifying the Requirement of a well- stated model, Court (1939) introduced the model "hedonic" to designate the weighting of the comparative importance of numerous characteristics of a motor car, for example, braking capacity, horsepower, window area, tire size and seat width in the creation of an index of "utility and acceptance". On the basis of his data, he determined also that a semi log form would be used "since initial studies showed that this presented more closely linear and greater sample correlations" (Court, 1939; Goodman, 1998). Unlike Court's study, Rosen (1974) study received significant attention in the literature of hedonic pricing (Andersson, 2010; Chen & Rothschild, 2010; Espinet, Saez, Coenders, & Fluvia, 2003; Monty & Skidmore, 2003; Thrane, 2005, 2007).

A general hedonic model in which the 'product' of any given hotel H is the depiction of a set of attributes, this is also found in the study of Espinet et al. (2003), such that

$$h_i = (a_{i1}, a_{i2}, a_{i3}, \dots, a_{ik}, \dots, a_{im}) \dots \quad (1)$$

Where $i = 1 \dots n$ the hotel numbers and ik ($k = 1 \dots m$), each of hotel's attributes.

So, hedonic price function for hotels will be as...

$$P_i = p(a_{i1}, a_{i2}, a_{i3}, \dots, a_{ik}, \dots, a_{im}) \dots \quad (2)$$

The functional form of P is to be constant across hotels, however the involvement of each and every attribute may vary from one hotel to another hotel.

Unlike the typical price models that have some measure of quantity on the right-hand side of the equation, hedonic price models express the price of an item, the dependent variable, as a function



of the measures of the quality (characteristics) of that item, the independent variables (Studenmund, 2011). Researchers used various influencing factors of room rates of the hotels. Zhang, Ye, and Law (2011) and Hung, Shang, and Wang (2010) links the room rates with the total number of room a hotel have. Similarly, the larger the hotel the larger the price will be according to the study. Inversely, Juaneda et al. (2011) argued that the greater number of rooms may have a somewhat negative impact in the situation of seaside hotels, on the room rate. If two hotels are the same status but have different numbers of rooms, prices become slightly lower than the hotel having greater number of rooms as compared to others. Moreover more the size of the rooms, the higher will be the rate (Chen & Rothschild, 2010; Monty & Skidmore, 2003). Many studies such as Lee and Jang (2012), Shoval (2006), Monty and Skidmore (2003) and Thrane (2007) were of the view that location is also the major hotel elements that can change hotel price. It can be positive and negative impact according to the situation. Lee and Jang (2012) stated that the hotel close to the airport or other transport system also charges more as compared to the others. Some researchers found hotel chain as an important determinant of the hotel room prices (Chen & Rothschild, 2010; Lee & Jang, 2012; Thrane, 2007; Wu, Costa, & Teare, 1998). In addition, Chen and Rothschild (2010) stated that in Taipei room prices are more if the hotel has a café & bar. Similarly, availability of the internet, business center, TV, swimming pool, fitness room etc. also important factors which change the room prices to some extent because these provide utility to the customers (Chen & Rothschild, 2010; Sard, Aguiló, & Martín, 2002; White & Mulligan, 2002).

Cho, Pekgün, Janakiraman, and Wang (2024) pointed out that online reviews of hotels as well as their competitors also matter for the demand of hotels. Satisfaction over various hotel services attract customers and increase the demand of room rates.

Gordan M-I et al. (2023) found that various amenities affect particularly luxury services affect the prices of hotels. It was also pointed out that resultantly the prices also tend to increase in rural. Yang, Reza, Al Mamun, Masud, and Rahman (2024) found that green behavioral intention of the customers also matters for hotel charges, and they observe these services in hotels while paying for hotel charges.



4. Data and Methodology

a. Nature of Data and its Source

There are 78 hotels operating in Islamabad. But most of the hotels are not star assigned hotels, so we have to exclude those in our study. There are 21 major ‘three’ and ‘four’ star hotels in Islamabad. Rests of the hotels are two star and one star hotel. The most popular, also covered in the study, hotels in Islamabad and Rawalpindi are Serena hotel Islamabad, Envoy continental, Marriott hotel Islamabad, hotel crown plaza Islamabad and Islamabad hotel. Similarly, two most visited hotels of Rawalpindi are Pearl Continental Rawalpindi and Shalimar hotel Rawalpindi. We selected 3- and 4-star hotels located in Islamabad and Rawalpindi. We are taking only three- and four-star hotels in our sample because there is no five star hotel in Pakistan and the costumers mainly visit these hotels. The study has used panel primary data which we have collected from 20 hotels for the time period 2010-2015 through structured questionnaire. The information about hotels attributes and room rates was obtained from the managers of the hotels.

b. Econometric Model

This study applied Hedonic price model which has widely been used in the available literature such as Monty and Skidmore (2003), Andersson (2010), Chen and Rothschild (2010) and Thrane (2007). The following model was estimated to show the impact of socioeconomic and environmental factors on room rates charges.

$$RR_{it} = \beta_0 + \beta_1 str_{it} + \beta_2 chn_{it} + \beta_3 bar_{it} + \beta_4 gdn_{it} + \beta_5 rsv_{it} + \beta_6 cnt_{it} + \beta_7 grd_{it} + \beta_8 cnf_{it} + \beta_9 dst_{it} + \beta_{10} sht_{it} + \beta_{11} out_{it} + \beta_{12} gym_{it} + \beta_{13} avg_{it} + \beta_{14} caf_{it} + \beta_{15} egy_{it} + \beta_{16} spol_{it} + \epsilon_{it}$$

Where i represent the cross section and t represents the time period. The description of the variables is given in Table 1.



Table 1: Description and expected sign of variables

Variable	Description	Construction of variable	Expected sign with RR
RR	Room rate	Room rate per night for double Bedroom in Rawalpindi-Islamabad in rupees (Dependent Variable)	NA
str	Hotel star	Dummy variable taking value 1 if Hotel has a three/four-star rating and 0 otherwise	+
chn	Chain affiliation	Dummy variable taking value 1 if Hotel is associated with a chain and 0 otherwise	+
bar	Mini bar	Dummy variable taking value 1 if Hotel has Mini-bar and 0 otherwise	+
spol	Swimming pool	Dummy variable taking value 1 if Hotel has Swimming pool and 0 otherwise	+
gdn	Garden/terrace	Dummy variable taking value 1 if Hotel has Garden/terrace and 0 otherwise	+
rsv	Reservation	Dummy variable taking value 1 if Hotel has online reservation of hotel room and 0 otherwise	+/-
cnt	Location	Dummy variable taking value 1 if Hotel is located within city center 0 otherwise	-
grd	No of guards	number of security Guards in hotel	+
cnf	Number of conference rooms	number of conference rooms in hotel	+

avg	Average number conferences	Average number of conferences held per month in hotel	+
caf	Number of cafe	Number of cafés in the hotel	+
dst	Distance	Distance to airport (in km)	-
egy	Alarm system	Dummy variable taking value 1 if Hotel has alarm system 0 otherwise	+
sht	Shuttle bus	Dummy variable taking value 1 if Hotel has shuttle bus service 0 otherwise	+
out	Shuttle out of city	Dummy variable taking value 1 if Hotel has shuttle bus service out of city and 0 otherwise	+
gym	Fitness room	Dummy variable taking value 1 if Hotel has fitness room and 0 otherwise	+

After a field visit it was found that majority of the rooms rented in the hotels were double bedrooms and such rooms were also cheaper as compared to single bedrooms. Majority of the features of both of the rooms were the same. Hotels providing more facilities will charge more as compared to others, but some facilities have strong or weak effect on room prices. For example, in our case it is expected that hotels providing mini bar and hot tub in attached bath will charge more as compared to hotels not having bar and hot tub. Similarly spacious rooms that have terrace and garden, probably increases the cost of maintenance, automatically leads towards higher prices of rooms. Similarly, GYM and shuttle bus services from hotel to the airport and airport to hotel as well as to somewhere else within and out of city ultimately increases the cost of hotels. Therefore, these hotel characteristics have positive expected relationship with room rates. Online services have chance of either positive or negative effect because online services facilitate the consumer



and people can easily book rooms and in case of emergency could cancel also could see the features and facilities according to that they can book hotel rooms , so hotel could charge for facilitating the customers. Distance of hotel from airport may also have negative or positive impact because some people want to live near the transportation services for the easiness of moving and some want to avoid these because of noise and air pollution congestion of traffic etc.

Star and chain affiliation of hotels are strongly expected to have positive impact on room rates. Some other features of hotel like swimming pool, availability of café, and availability of hot tub in attached washrooms also expected positive related to room rates.

Similarly, number of conference rooms in any hotel and average number of conferences held per month are also expected to have positive relation with room rates because large number of conference rooms exist in large hotels and these hotels also provide more facilities and better services during conference, so high prices are expected.

For the analysis of panel data, Fixed and Random Effects Model are widely used. Fixed effects presume that the individual precise effect is correlated with the independent variables while random effects presume that the individual precise effects are uncorrelated to the independent variable. This study also applies panel data techniques such as random and fixed effect models while the appropriate model out of these two has been identified through Hausman test.

5. Results and Discussion

a. Descriptive Statistics of the sampled hotels

In our analysis, the number of hotel attributes included both quantitative and qualitative variables. The quantitative variables were the number of guards, number of cafés, number of conferences held per month, distance from airport which is measured in kilometers and number of conference rooms. The qualitative attributes include hotel location, amenities and other features of hotels. The descriptive statistics of the qualitative variables are given in Table 2.

There are 20 hotels in the sample of this study, and the frequency of Star variable shows that there are 9 hotels which are assigned 4-star hotels, while remaining 11 are 3-star hotels. Similarly, 9 hotels in 2010 were chain assigned, Islamabad hotel was also chain hotel in 2010 and 2011 after



that this hotel became independent, now 8 hotels are chain hotels in the sample of this study. Mini bar is there in 9 hotels. Swimming pool facility provides seven 4-star hotels only in 2010 and 2011. But in the year 2012 Shalimar hotel Rawalpindi ended this facility for the renovation purposes still they are not offering this facility. Swimming pool is available only in six hotels of Rawalpindi and Islamabad. Facility of garden and terrace were offered by 15 hotels till 2013 but from 2014 PTDC hotel also offered this facility.

Table 2: Frequency Distribution of the qualitative Variables

Variable	Frequency					
	2010	2011	2012	2013	2014	2015
Hotels having 4-stars	9	9	9	9	9	9
Chain affiliation	9	9	8	8	8	8
Availability of mini-Bar	9	9	9	9	9	9
Availability of Pool	7	7	6	6	6	6
Garden\terrace	15	15	15	15	16	16
	13	15	17	17	17	17



Online Reservation						
Location of the hotel	14	14	14	14	14	14
Alarm system	18	18	18	18	18	18
Shuttle service(in)	14	14	14	14	15	15
Shuttle service (out)	6	6	6	7	7	7
Fitness Room	10	10	10	10	10	10

In the year 2010 only 13 hotels were giving the facility of online reservation but now 17 hotels in the study are offering this facility. FREQUENCY OF location variable shows that fourteen hotels out of twenty are within the city center.

Alarm systems are there in almost 90 percent of hotels in the study. FREQUENCY OF shuttle bus service shows till 2013 fourteen hotels were providing the facility of pick and drop from hotel to airport and airport to hotels, in 2014 Pak palace hotel also started this service for the satisfaction of their customers. Similarly shuttle bus service from hotel to out of city were offering 6 hotels in 2010 now 7 hotels are giving this facility. Fitness rooms are in 10 hotels; almost all four stars and some three-star hotels provide this facility.



The details of the descriptive statistics are given in table 3. Mean value of room rate is Rs.13048.94 and the maximum room rate of per night stay of double bedroom in Islamabad and Rawalpindi is Rs.23200 and this is the current room rate of Serena hotel in Islamabad, which is charging highest room rate. Minimum value of room rates is 3500, which is charged by Royalton hotel, Rawalpindi in the year 2010. Now this hotel is charging 4000 per night stay of double bedroom. And median is 12543.00 of room rates variable. Similarly in independent quantitative variable, mean value of number of guards is 44.092. maximum value is 250.00, which is the numbers of guards at Serena hotel in 2015. minimum number of guards in the study is 3.00 and these were in the Royalton and De Mal hotel of Rawalpindi in the year 2010. Now the number of guards are also increased there. Another independent quantitative is the number of café and the meaning of this variable is 1.784. The maximum value is four, which is at De Papae hotel, Rawalpindi. This hotel has four cafés, highest in the study.

Average numbers of conferences held per month is another independent variable having the mean of 57.909 and median value is 25.00. the maximum number of conferences held per month is 225. the largest numbers of conferences holding per month are in Marriott hotel in Islamabad. Minimum value shows the average number of conferences held by PTDC hotel.

Table 3: Descriptive Statistics for quantitative Variables

Name of variables	Unit	Mean	Median	Maximum	Minimum
Room rate	Rs. per night	13048.9	12543.0	23200	3500
Number of guards	Numbers	44.092	14.00	250.00	3.00
Number of cafés	Numbers	1.784	2.00	4.00	0.00
Conferences held per month	Numbers	57.909	25.00	225.00	2.00
Distance from airport	Km	14.690	15.150	21.600	7.300



Number of conference rooms	Numbers	3.650	2.500	13.00	0.00
Number of security cameras	Numbers	32.642	20.00	160.00	0.00
Size of room	Sq. feet	160.00	174.00	300.00	100.00

The distance of hotel from airport contains the mean value 14.69 km. Maximum distance value is 21.60 km, which shows the distance of Marriott hotel from airport which is the highest distance in our studied hotels and 2nd highest distance value is of Avari express which is 21.500 km. Minimum distance having the value of 7.300 km, Akbar and Shalimar hotel Rawalpindi has the lowest distance they located nearby the airport. Correspondingly the mean value of the number of conference rooms is 3.650 and maximum numbers of conference rooms are in Serena hotel, having 13 conference rooms.

Numbers of CCTV cameras in hotels having the mean value 32.64. median value is 20 and maximum value 160.00 which is in pc hotel Rawalpindi and minimum value 0.00 is of De Papae hotel, Rawalpindi in the year 2010 but now they have fixed video cameras in the year 2012. The mean value of the size of double bedroom rooms is 160.00 square feet. The largest size of double bedroom in square feet is 300.00, Islamabad club having these largest size bedrooms in Islamabad. Second largest bedrooms are in pc hotel Rawalpindi and Islamabad hotel both having 252 square feet of the same size, and then after that Marriott hotel and Serena hotel Islamabad having 240 and 225 square feet respectively.

In recent years terrorism (bombing) in Pakistan has come to be a foremost and highly damaging issue. The annual deaths were 164 in 2003, which increased to 3318 in 2009. 35,000 Pakistanis were killed from 2001 to May 2011. The capital of Pakistan (Islamabad) also has become the victim of this phenomenon. So, each and every sector is disturb, Marriot hotel in Islamabad also become target of bomb blast on 20 September 2008. At least 54 people were killed and 266 injured, in which Pakistani and some foreigners were killed and injured. Marriot hotel was considered the most impressive hotel, in the capital, situated nearby, Embassies, government buildings and high commissions.



After all these foreigners starts hesitating to visit and stay in hotels of Pakistan. Consequently, by assessing the demand of state and customers insurance almost all hotels in Islamabad and Rawalpindi took serious precautionary measures regarding security. Due to this fact we have included security variables such as number of security guards, number of CCTV cameras and alarm system

The number of security guards varied across the hotels. Marriot hotel, which is four-star hotel, has high number of guards among all. Back in the year 2010 there were 200 guards in Marriott hotel and now in 2015 number of guards has increased up to 250. Serena hotel which is also four-star hotel located near convention center Islamabad, in year 2010 there were 150 guards. Within period six years number of guards increased from 150 to 200. Same in the case of Rawalpindi, there were 140 guards in the year 2010 in Pearl Continental hotel which increased to 180 in the year 2015.

Ramada hotel had almost 40 cameras in the year 2010 and gradually by assessing the demand they fixed more cameras in hotel. Pearl continental hotel Rawalpindi having 160 CCTV cameras which is the largest as compared to other hotels.

Econometric analysis of the determinant of hotel room rates

For the selection of model between random effect and fixed effect we have applied the Hausman test. The Hausman test statistic (Chi-Square) was estimated as 24.5818 with 16 df followed by its probability 0.0775. This means that random effect model is the appropriate model for our model. In the regression results the STAR coefficient has positive and statistically significant impact on the room rates (Table 4). These results are also in line with the studies of Thrane (2005) and Kefela (2014). This is because a high a star hotel may have greater facilities.

Table 4: Estimated regression results of the hedonic pricing model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
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C	-5658.842	2459.371	-2.300930	0.0234
Str	1872.611	653.2548	2.866585	0.0050
chn	537.8868	710.5034	0.757050	0.4507
bar	352.4869	989.3078	0.356296	0.7223
gdn	2586.903	419.3372	6.169027	0.0000
Rsv	-803.8354	335.0763	-2.398962	0.0182
cnt	-3461.882	687.7824	-5.033397	0.0000
grd	284.2522	53.46961	5.316146	0.0000
cnf	9.150945	6.785315	1.348640	0.1804
dst	-0.267375	0.483078	-0.553482	0.5811
sht	4063.451	441.4191	9.205425	0.0000
out	1921.729	431.4378	4.454245	0.0000
gym	2581.865	492.6728	5.240527	0.0000
avg	12.77135	5.332526	2.394990	0.0184
caf	30.87566	11.22027	2.751776	0.0070
egy	821.9965	634.1782	1.296160	0.1978
spol	2.803704	283.3494	0.009895	0.9921
R-squared	0.657895			



Adjusted R-square	0.642908
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* The dependent variable is the rate of the double bed room in the hotels

The coefficient of CHAIN variable shows positive but statistically insignificant relationship with room rate. This is because if a hotel is chain, then definitely, they are providing luxury and good accommodation to the tourists as well as for other customers. It's also a fact that in the Islamabad & Rawalpindi sample, there are only 6 international hotels or chain hotels such as Best Western, Marriott, Serena, Ramada, Avari Express and PC. The reason of insignificance of chain variable is that many hotels in Islamabad and Rawalpindi are not associated with the international chain however they compromise high class services. Chen and Rothschild (2010) also found a positive but insignificant relationship with room rate.

The coefficient of the dummy variable BAR shows positive but statistically insignificant relationship with double bed room rates in hotels. Chen and Rothschild (2010) also found that bar of the hotel is positively associated with the room rates. Online reservation is significant but negatively related to room rents in this study. Awareness of customers restricts the hotel owners from charging extra prices and earning abnormal profits.

The number of security guards (GRD) is positively related to room rates and also statistically significant. After the incident of Marriott hotel blast on 20 September 2008, hotel managers as well as customers have great concern about the security of the hotel. This is the reason every hotel has increased the number of guards in recent years.

Number of conference rooms is insignificant in our study, but it has positive relationship with room rates. This is because of the fact that there are also additional halls available in the city and the customers hire those halls for weddings and conference and workshops purposes. The number conference room was also found insignificant in the study of GuShin, PiYing, and HsinWei (2011). Distance of hotel from airport (DST) is also insignificant and same relationship was also found by Thrane (2007). Further, its coefficient shows negative relationship between room prices and distance from airport i.e. as this distance increases prices will go down and vice versa. People who come for conferences or business meetings want to live close to the transport facility from where it's easy to move to other tourists' sites or business places. Distance of hotel from airport also



negative in the study of Monty and Skidmore (2003). Usually for business meetings businessman selects the hotel near the airport and transport stops so that all participants could come easily and get to gather for their purposes. However, the people who come for enjoyment normally for them this distance isn't as important perhaps this is the reason of insignificance of this variable in Islamabad and Rawalpindi because majority of national and international tourists come here to travel to further places attached to Islamabad.

The facility of shuttle bus service (SHT) from hotel to airport and from airport to hotel is statistically significant. Although Chen and Rothschild (2010) found this relationship as insignificant but in case of Pakistan because of severe issue of security, international tourist do not trust on the local transport rather they require their destination with the pick and drop facility.

Similarly, the service to drop out the visitors, out of Islamabad and Rawalpindi is also statistically significant. Some major hotels such as Serena, Marriott, Dreamland, Avari Express, De Papae hotel Rawalpindi etc. have this service to facilitate their customers.

The variable fitness room (GYM) is statistically significant and has positive relationship with room rates. The superior the quality and variety of gyms and leisure facilities, the higher will be the prices of rooms as also proposed by GuShin et al. (2011).

Average number of conferences held per month (AVG) is also positively related with room rates and its coefficient is also statistically significant. The number of cafés in a hotel (CAF) is positively related to room prices, and its coefficient is also statistically significant. According to Foster (1999), hotel is a construction or building built precisely to offer room to the tourists or customers, with food and refreshment on the same location. BAR/CAFÉ was also found significant determinants of Tiepie hotels rates (Chen & Rothschild, 2010).

Location of the hotel (CNT) has negative impact on the room rates with statistically significant coefficient. Similar result was also found by Chen and Rothschild (2010). The reason is many people comes for charming environments they desire to avoid the noise pollution of traffic and want to live in calm places. Same is in the case of Islamabad, because in the surroundings of Islamabad there are many tourist places and people normally come for enjoyment there and they



want to enjoy nature rather than to stay in the overcrowding of traffic. The negative relationship between room prices and location of the hotels is due to the fact that these hotels (located far from city center) offer an extensive variety of facilities such as sports amenities and hot springs. And the provision of these facilities is possible only at the big and open places. Just like Islamabad club which provides number of facilities, swimming pools, riding and other games club.

The reason of insignificance of swimming pool in Islamabad and Rawalpindi is that there are only few hotels which have swimming pool in the sample. Vilchez (2013) and Thrane (2007) also found swimming pool as insignificant variable for hotel room rates. In the case of Islamabad people come here for sightseeing and for visiting different tourist places while swimming may have less importance for them.

The availability of garden and terrace in hotel (GDN) show positive relationship with room rates also has statistically significant coefficient in the model estimated. Juaneda et al. (2011) found that garden availability increases the charges of rooms by 2.80%. People who come for enjoyment or business purposes want a place in the hotel where they can spent their time in the fine atmosphere, therefore, garden and terrace provide them with this opportunity. Similar relationship was also estimated by Espinet et al. (2003).

6. Conclusion

This study applied the hedonic price model to estimate the impact of variety of factors on the hotel room rates in Islamabad and Rawalpindi. The study found that star, garden, café, fitness room, average number of conferences and shuttle bus services are statistically significant and positive relationship with room rates of hotels. Online reservation and location of the hotel (within city center) are statistically significant but have negative relationship with room rates. Security guards and alarm systems have positive relationship with room rates, whereas, security guard is statistically highly significant, and alarm systems prove insignificant. Distance of the hotel from airport negatively relates to the room rates of the hotels but is statistically insignificant.

Providing security would further increase the number of tourists and enhance the success of the business. While constructing the new hotels, the location should be specially focused on which



may vary the prices of the room rates. In designing the hotels, the availability of gardens should be ensured in order to earn more revenue and customers' attraction.

This research considers the supply side information for hotel attributes taken from the hotel managers through questionnaire, however, the demand side of the hotel prices should also be carried out by asking the questions from customers and to estimate how much they are willing to pay for each attribute of hotel. This study has taken into consideration only three- and four-stars hotels, further research can be done on all star hotels to see the specific effect of hotel star ratings if the sample is increased. Though Islamabad has many tourist places in its surroundings, people come here to spend their summer vacations, so seasonality effect can also be measure on room prices, i.e. summer and winter.

Conflict of interest

Authors have no conflict of interest

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Data Availability

All the data is available in the manuscript. And the datasets used and or analyzed during the current study are available from the corresponding author on reasonable request.

Authors contributions

All authors have contributed to various sections of this manuscript.

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