Hotel Room Pricing In The Indian Market

BRIEF DESCRIPTION

The purpose of this project is to analyse the pricing strategy of hotels in the Indian hotel industry.

Many factors drive hotel room prices. The objective of this project is to identify the factors that matter the most. Think about the following problem:

Room Rent = FUNCTION (Date(s); Hotel Features; External Factors)

DATA

The data is available here. Please download it and read into R.

The data was collected from www.hotels.in in October 2016.

DATA DESCRIPTION

Notice that the dataset tracks hotel prices on 8 different dates at different hotels across different cities. Please browse the dataset.

Please understand the meaning of each column of the dataset.

Dependent Variable

DECISION VARIABLE	UNITS	MEANING
RoomRent	Rupees	Rent for the cheapest room, double occupancy, in Indian Rupees. Some hotels have more than one type of double occupancy room. For simplicity, we picked the cheapest room with double occupancy.

If your problem could be written as a function y = f(x), RoomRent is your y variable.

You need to explain what factors drive the RoomRent set by hotels.

External Factors

Many external factors can potentially influence the RoomRent. The dataset captures some of these external factors, as explained below.

VARIABLE	UNITS	MEANING
Date	Text	**We have hotel room rent data for the following 8 dates for each hotel:** **{Dec 31, Dec 25, Dec 24, Dec 18, Dec 21, Dec 28, Jan 4, Jan 8}** **If a hotel is sold out on a given date, assume that the price of the hotel room on the date it is sold out is the maximum price from the sample of dates for which prices are available.**
IsWeekend	Dummy	**We use '0' to indicate week days, '1' to indicate weekend dates (Sat / Sun)**
IsNewYearEve	Dummy	'1' for Dec 31, '0' otherwise
CityName	Text	Name of the City where the Hotel is located e.g. Mumbai`
Population	Number	**Population of the City in 2011 (See Table A1 below)**
CityRank	Dummy	Rank order of City by Population (e.g. Mumbai = 0, Delhi = 1, so on); (See Table A1)
IsMetroCity	Dummy	'1' if CityName is {Mumbai, Delhi, Kolkatta, Chennai}, '0' otherwise
IsTouristDestination	Dummy	We use '1' if the city is primarily a tourist destination, '0' otherwise. For example, Goa and Agra are primarily tourist destinations. We assume that most people who visit Goa and Agra and stay in their hotels are in these cities primarily for tourism.

Internal Factors

Many Hotel Features can influence the RoomRent. The dataset captures some of these internal factors, as explained below.

VARIABLE	UNITS	MEANING
HotelName	Text	e.g. Park Hyatt Goa Resort and Spa
StarRating	Number	e.g. 5
Airport	km	Distance between Hotel and closest major Airport
HotelAddress	Text	e.g. Arrossim Beach, Cansaulim, Goa
HotelPincode	Number	403712
HotelDescription	Text	e.g. 5-star beachfront resort with spa, near Arossim Beach
FreeWifi	Dummy	'1' if the hotel offers Free Wifi, '0' otherwise
FreeBreakfast	Dummy	'1' if the hotel offers Free Breakfast, '0' otherwise
HotelCapacity	Number	e.g. 242. (enter '0' if not available)
HasSwimmingPool	Dummy	'1' if they have a swimming pool, '0' otherwise

Table A1: City Rank (based on 2011 City Population)

CITYRANK	CITYNAME	IsHolidayDestination	Number of Hotels listed on Hotels.com	City Population(2011)
0	Mumbai	0	405	12,442,373
1	Delhi	0	871	11,034,555
2	Bangalore	0	450	8,443,675
3	Chennai	0	287	7,088,000
4	Hyderabad	0	237	6,731,790
5	Ahmedabad	0	136	5,577,940
6	Kolkata	0	192	4,496,694
7	Surat	0	20	4,467,797
8	Pune	0	205	3,124,458
9	Jaipur	1	286	3,046,163
10	Thrissur	0	36	2,975,440
11	Lucknow	0	37	2,817,105
12	Kanpur	0	13	2,765,348
13	Amritsar	1	72	2,490,891
14	Indore	0	49	1,960,631
15	Agra	1	102	1,760,285
16	Madurai	1	21	1,465,625
17	Goa	1	626	1,457,723
18	Rajkot	0	26	1,286,678
19	Varanasi	1	60	1,201,815
20	Srinagar	1	57	1,180,570
21	Jodhpur	1	81	1,033,918
22	Chandigarh	0	117	960,787
23	Thiruvathipuram	0	128	957,730
24	Guwahati	0	12	957,352
25	Mysore	1	58	887,446
26	Bhubaneswar	0	29	837,737
27	Kochi	1	188	595,575
28	Mangalore	0	13	499,487
29	Udaipur	1	113	451,735
30	Pondicherry	0	42	241,773

31	Haridwar	1	73	228,832
32	Puri	1	24	201,026
33	Shimla	1	58	169,578
34	Panchkula	0	118	140,925
35	Darjeeling	1	32	132,016
36	Rishikesh	1	107	102,138
37	Gangtok	1	30	98,658
38	Ooty	1	64	88,430
39	Jaisalmer	1	82	65,471
40	Nainital	1	85	41,377
41	Munnar	1	108	38,471
42	Manali	1	80	8,096