**A Study on Hotel Room Pricing in Market**

**1. Introduction**

Hello, This study illustrates the hotel room pricing in the market. The data is taken from [**www.hotels.in**](http://www.hotels.in) and the dataset tracks hotel prices on 8 different dates at different hotels across different cities.

The main factors that lead to increase in hotel room prices are :

As occupancy/demand increases and supply (room availability) decreases, lower rates are closed and only higher rates are available. Hotels today need a base of business in order to cover operational expenses (e.g. Airline crews are often used for this). **Selling all rooms at the same rate rarely produces good occupancy or a good average rate.**

**What are the key rate determinants?**

* Location
* Hotel rating/standard
* Competition
* Demand

These determinants guide the rate scales and set the basis for setting up revenue management parameters. In its simplest form, **rates might look like this**:

* Rack Rate
* Discount 1 (walk-in Corporate)
* Discount 2 (Government)
* Deep Discount 3 (Segment Discounts)
* Deep Discount 4 (Promotional rate)

Once rates are set for each segment of business, the next step is to **set desired occupancy levels needed to close each discount level** (what is needed to establish a base of business?). This example is for a 100 room property:

* 0 to 50 rooms sold…all rates are available
* 51 to 70 rooms sold…close Deep Discount rates
* 71 to 85 rooms sold…close all rates except Walk-in Corporate and Rack Rates

**Note that rates are not actually increased**. As the number of occupied rooms increase, lower rate categories are closed for sale; in effect, increasing revenue yield. The scales above are very simple of course.

For high demand periods, many hotels add restrictions to increase revenue yield. Some common restrictions, such as “minimum stays” and “closed to arrival” are excellent tools for experienced yield managers. Restrictions should be applied with some caution because they do limit demand.

It is **vital that these rates and bookings are reviewed constantly.** The mission should not simply be to get 100% occupancy; it should be to get the highest occupancy & average rate. That is, for a 100 room Hotel, occupancy of 85% with an average rate of $140 is more profitable than 100% occupancy at $110. Although both scenarios produce roughly the same revenue, what does it cost you to clean an additional 15 rooms?

This is of course a simplified format for those hotels which are currently “simply selling rooms” at the present time. The purpose of revenue management is to help hotels to “shape” their business. Obviously, there can be much more detail and intricate techniques involved in revenue management; but solid progress comes best from smaller steps in the beginning.

**We are trying illustrate the Room rent as a function of hotel features, date and external factors.** We will also simulate the summary of the dataset and try to break down complex relationships between variables to a set of scatterplots, box plots and corrgrams.

**2. Data**

The dependent variable is RoomRent which is terms of rupees.

The external factors are Date, IsWeekend, IsNewYearEve, CityName, Population, CityRank, IsMetroCity and isTouristDestination.

The internal factors are HotelName, StarRating, Airport, HotelAddress, HotelPincode, HotelDescription, FreeWifi, FreeBreakfast, HotelCapacity and HasSwimmingPool.

**3. Analysis**

The dependent variable is RoomRent. RoomRent is the feature against which we are trying to do statistics and make analysis.

The most important 3 independent variables :

Date , Population and City Name

Population of a city doesn’t directly affect the Room Rent as seen from table A1. City Rank affects the Room Rent directly which makes City Name affect Room Rent indirectly.

Date has no relation with Population and Rank.

All the output and R code are attached in the same folder. Please take a look into in depth analysis.

**4. Model**

Their are 3 model in the R Code.

RoomRent and Population, RoomRent and CityName, RoomRent and Date. We have done t-test and Regression analysis.

**5. Regression Analysis**

After running regression model and t-test on all the models it’s clear that Room Rent increases with more no of cities and more on of dates. Surprisingly, Room Rent decreases with more no of population. This raises speculation as direct logic dictates that as the population increases, more people are contesting for same no of rooms which will eventually lead to price hike. Although, This factor might be influenced by other external and internal factors so don’t take it for granted.

**6. Conclusion**

To conclude this case study on Hotel Room Pricing, We have discussed how and why room rent prices are hiked, the major factors linked to it and it’s future prospects. I would like to thank my mentor, Prof. Sameer Mathur for guiding me and providing me with necessary details and important insights.

Thank you !