

## **Operation research and Dynamic Pricing Model: A Case Study of Hotel Industry**

Mrs. C. Jhansi Devi

*Lecturer in Mathematics, New Science College, Hyderabad*

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### **Abstract:**

*The present paper focuses on operation research and relevance in the revenue management of Hotel industry and how the circumstances of present scenario would be beneficial in enhancing the revenues. It is noted that dynamic pricing in hotel industry in long run helped the sector gaining profits in a consistent manner. Arguably, special offers further enhance occupancy. It is observed from the sources lowering of prices would not be beneficial in long run as it would burden the management in maintenance of the services.*

**Keywords:** *Operation Research, Occupancy, Revenue management, Dynamic Pricing, Price variation, Technical Solutions, Customer demand.*

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### **I. Introduction:**

#### **The situation within the hotel market:**

Focus on the subject of Revenue Management in relation to Hotel Industry it is necessary to be familiar with the present circumstances within the existing market. It is observed that to have the match demand for the hotel occupancy a flexible room price is needed and that is profitable to run special offers to enhance occupancy (Andersson 2004). It is also stated that lowering the prices of the rooms may not be profitable in a longer run. The Price variation will be always volatile as the competition grows with the effect of expansion of the market and increased projections from the business travelers. The new research operations tend to have some technical solutions which may not be suitable for the older hotels in optimizing the benefits. To realize the maximum benefits it is always suggested that there should be mechanism which is flexible in setting the price. As a result the focus would be addressing the requirement of the customer's choice which will always lead to customer centric benefit rather than occupancy linked method. Therefore lowering prices to increase the occupancy rate is never been an alternate option. It clearly indicates there are several discrepancies and different opinions has to whether the prices should be flexible or fixed to meet the customer demand and management.

One would have the idea that the demand for hotel rooms is always sensitive to the state of available economy. In the sense in the sound economy context, there is always considerable good demand for the loans particularly from the business segments as companies tend to expand their business circles in search of new business opportunities during such times, on the other hand during down turns these business travelers are the first people to be exempted from the budget as to minimize the cost effect. It appears the competition within the hotel industry likely to have a lot of competition within; therefore it could lead to excess capacity for the broader market.

It is also stated from the administration point of view there will be a decline in the business during lean season, severe short term liquidity problems and rising business failure rates, In such situations profitability and survival are most essential things to the management in managing the revenue and the contrary the business continues to prevail upon the institutions of the policy formulas that are derived from the experiences of their businesses.

In the past decade of the hotel industry showed responsiveness to the changes and to the contingencies by adapting different management techniques specific to the hotel management. Some of the techniques include computerized reservation establishing strategic alliances quality management and different practical pricing models such as yield management and revenue management. These kinds of trends also are noticed in the tourism industry.

In past one decade there has been a sign of positive development within the hotel industry in Hyderabad although the past years have been challenging due to economic down turns and up turns which lead to collapse of software industry preceded by global economic crisis. Though the demand is not so encouraging at the same time it is not that much discouraging. It appears the hotels in the market have shared the available small cake proportionate to their requirement. The down turn in the market lead to decrease of business travelers and foreign project officials which contributed sober returns to the hotel industry. The economy showed a positive term during 2009 with slight regional differences viz., Bangalore, Bombay as Bangalore throws healthy competition. This period also witnessed different change perception where business guests were replaced by private guests who in general pay a lower rate consequently leading to a shift from executive class to ordinary class. Nevertheless,

average room rents have decreased by 10%. One of the reasons would be the volatility in the financial market appears to be the major contribute to the situation.

### **Revenue Management Techniques:**

Revenue Management techniques have been evolved since the profitability of many companies depends upon their ability to extract the maximum possible amount of revenue from a fixed quality of services or goods (Marmoor Stein et al., 2003),

Revenue Management is defined as "Revenue Management is used to find optional inventory allocation and scheduling strategies as well as price setting for perishable assets so as to maximize revenue within the Planning". (Lai and N9. 2005, p. 1059)

Revenue Management techniques were adopted by Hotel Industry in the late 1980 and Kimes (1989) opined that for many hotels Revenue Management has become a part of schedule operating procedure for many hotels. It is observed that the success of hotel industry lies in taking the advantage not only from Revenue Management but also adapting a more proactive management style in order to balance the demand. This is heavily observed in Airlines Industry. Therefore the hotel industry should take into the consideration in the developments that took place in the Airlines Industry as it has illustrated the concerns of proactive thinking within a capacity restrained industry. The purpose of Revenue Management in the explanation in the concept will be thoroughly elaborated in Literature and will be presented in the chapter of survey of the literature review.

Revenue Management is not only tool which could be used from effective revenue returns as mentioned earlier the Revenue Management is making a take off to be incorporated in the operations through the use of Revenue Management. But in fact all areas with in the hotel operation effective revenue directly or in directly, therefore the research should include Revenue Management in different reas in hotel industry that may effect where the revenues of the management of the revenue could be applicable. In any setup of the organization the hospitality operation and the organization is managed by a number of departments (Jons,1996) include food, beverage, finance, chief engineering, sales and marketing. human resources & room division. These are also influenced by the external environment (Jhao & Merna, 1996). This also presents a great deal of different tools for managing the varies areas of customers, capacity, price, sales and marketing in human resource management such as eg. Over booking, discounts and cancellation fees to deal with the demand. The purpose is to fit to techniques good of organization

It is also stated the management of the areas, customer, capacity, price, sales, and marketing in human resource management provides a way fit the posed by the extrmal environment such as broad globalization of haspitality busines (Chekitan & Olsen, 2000). Further technology though internet is becoming a pat of the operative procedures for both businesses and customers, with this support the Macro organization of the hotel industry, international hotel companies will maintain a dominant position is the market, but small independent hotel will continue to flourish (Holjevac, 2003). Therefore, the present environment poses a threat much as competition, recession, changing customers demand uncertainty. If business operators are in Noch an uncertain environment, they need so anticipate those changes, analyse their impact and where ever possible, identify opportunities since the external environment operations play a significant role. It is observed from the pilot study that the present the practices of management of pricing, capacity areas of customer and market are having correlation on external environment which influenced on their perception on expenditure and Revenue and their practice of Revenue Management techniques.

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