

Ranking model of revenue management techniques for room revenue in star rated hotels

Prof Pratik Satpute

Assistant Professor

Suryadatta College of Hospitality Management and Travel
Tourism
Pune India

Dr. Deepa Prasad Venkatraman

Associate Professor

Department of Management Sciences (PUMBA)
Savitribai Phule Pune University, Pune India

Abstract

The paper is an overview of the ranking model for revenue management techniques for the enhancement of the room revenue. Hotels now a days are using various revenue management techniques, but there is no such parameter which shows which technique can be the most effective one. The current cut throat competition and ever-increasing costs have made it imperative for the hotels to enhance the room revenue. Room revenue is the one which hotel earns to cover all costs- fixed and variable and finally lead to profitability. So, the ranking model developed will help the hotels to focus on those strategies which are most effective and can lay down their plans and budgets in conjunction with the said strategies. After an extensive literature review a classification chart of revenue management techniques is defined, which helps us enumerate the various revenue management techniques. The detailed study of 108, star rated hotels in Pune district has been done to develop this ranking model of revenue management strategies for the enhancement of room revenue.

Key words : Revenue management, Room revenue, Rooms division, Star rated hotels

Introduction

With advent of technology over the past few years hotel industry has flourished in leaps and bounds. The hotel industry is currently part of tourism industry which is in the biggest sector in services industry. With increase in hotels worldwide there was an increase in the competition between hotels to get the highest share in the market. Airlines first practiced the concept of yield management in 1980's which was a major step in optimizing the revenue in coming years. This concept was further implemented in hotel industry and was later evolved in to a better version known as revenue management. Hotels now a days are using revenue management in daily revenue operations to get the highest possible share of revenue in the competitive market. Revenue management has namely five elements to set up the platform- right product or service, right price, right time, right customer and right distribution channel. When all in these five elements are defined correctly by any organization, they reach the level of earning an optimized revenue.

Hotels have namely two major areas of revenue generation- rooms and food & beverage. There are also other areas but these are the prominent ones to give the necessary revenue. In hotels the 60% room revenue is generally earned by sale of rooms. So, we can always say that room revenue forms a major part in the total hotel revenue. Now the main question amongst any hotel organization is how can we get the maximum room revenue as maximum room revenue is the key factor to achieve a good profitability. Revenue management is considered as a solution for this question. Hotels implement revenue management, but which techniques or practices of revenue management are being used or can be used or which techniques can give the best possible revenue is the primary question. Hotels are getting well educated about revenue management but are revenue management techniques giving the necessary results we are not aware.

Considering the above question, a detailed literature review has been done to put forth a new classification of revenue management techniques. The classification is sub divided into three major categories namely- pricing revenue management techniques which have price as a major factor in implementation, non-pricing revenue management techniques which take into consideration other factors rather than price and last one combination revenue management techniques which take into consideration price as well as other factors. So, under each main type there are various techniques which have been listed out. When we study the impact of all these techniques individually on room revenue in hotels, we can conclude whether the use of the various techniques to strategize the business is effective or not.

Thus, the purpose of the paper is to study which of the said revenue management techniques are giving the best results and based on the effectiveness of each technique, we can develop a ranking model for practical implication.

Literature review

Revenue management is process of selling the right product or service to the right customer at the right time at the right place at the right price using the right distribution channel in order to optimize the revenue (Hereter, 2017). So according to above definition, revenue management involves six major components namely product or service, customer, place, time, price and distribution

channel. Revenue management can be defined as a next level of the concept of yield management which was adopted few years back. As per Varini & Sirsi (2012) revenue management is famous amongst hospitality and tourism organizations as one of the main characteristics of these firms is having a perishable inventory.

As per Kimes (2017) revenue management is more of strategic and is a continuous process which will always go on and on towards progress. The focus will be more on understanding the demand segment wise and on basis of who does the booking. Compared to the past nowadays the revenue management functions are centralized to a specific organization. Revenue management goals can be defined as focusing more on profitability compared to revenue, data analytics to be considered the most important element to enhance profits and also considering non-room revenue areas as a source for enhancing the profit.

Ivanov (2014) defines revenue management as an evolution of yield management helps in matching supply and demand by dividing customers into various segments depending on purchase intentions and the allocation of inventory in such a way which will optimize the revenue of the organization. Hotel revenue management can be defined as a set of actions and tools whose main aim is achieving set levels of hotel net revenue and gross operating profit by offering the right product or service at the right time to the right customer using an appropriate distribution channel with effective communication.

Revenue management also speaks of right customer which according to Ivanov (2014) is those guests who are profitable to hotel and should be attracted using the correct marketing techniques. Ivanov (2014) also mentions the right product or service can be determined by perspective of both guests as well the hotelier considering the ones which deliver value to the appropriate customers by satisfying their needs and requirements, which compel customers to pay and leads to profitability for the hotelier. In context of right communication, it is said that, product and prices are perceived by how the market communications influence the guest.

If we consider the term revenue management it is selling the right product or service to the right customer at the right price at the right time at the right place using the right distribution channel to optimize the revenue. As per Oxford dictionary, the word technique is a skillful and efficient way of doing or achieving something. So, if we combine the two we can define revenue management techniques as skillful and efficient ways of optimizing revenue considering the characteristics of product or service, customer, price, time, place and distribution channel

Revenue management techniques cannot be judged under one parameter and so they need to be classified. Ivanov (2014) helps distinguishing them in three types namely- pricing revenue management techniques, non-pricing revenue management techniques and combination revenue management techniques. Pricing techniques have price as a main factor and Ivanov has mentioned them as price discrimination, dynamic pricing, lowest price guarantee and price framing. Non-pricing techniques will consider other factors like inventory and demand supply pattern and will not be affected by price. Ivanov (2014) again has mentioned those as capacity management, overbooking and room availability guarantee.

Varini & Sirsi (2012) define price differentiation as giving different prices during different demand periods. The main aim of price differentiation is attracting and retaining the most profitable customers with help of different levels of price. Pricing and revenue management are functions data-intensive in nature and their integration to derive out strategies will help in development of extensive databases.

Himanka (2014) describes tactical pricing as a short-term pricing related generally to daily and weekly pricing decisions. Strategic planning takes in consideration long term prospects of rate management in order to enhance revenue by having a bigger share in the target market.

As per Landman (2018) open pricing is considered as an ability to price various different distribution channels, segments, room types and packages independent of each other in order to maximize the revenue without closing out on any channels. The major fault for losing out revenue is not changing rates periodically and these static rates do not help in reaching the true profit levels.

Ivanov (2014) infers that by changing the price points over time, the ratio between different prices for distinct market segments and applicable condition for each price point hotels can attract the right customers to generate high revenues. Right price is considered as a consensus between the hotel and guest on a certain price. By application of revenue management techniques like price discrimination in particular requires a heterogenous market. This enables hotel to apply differentiated market strategy and prepare different marketing mixes for the target market segments.

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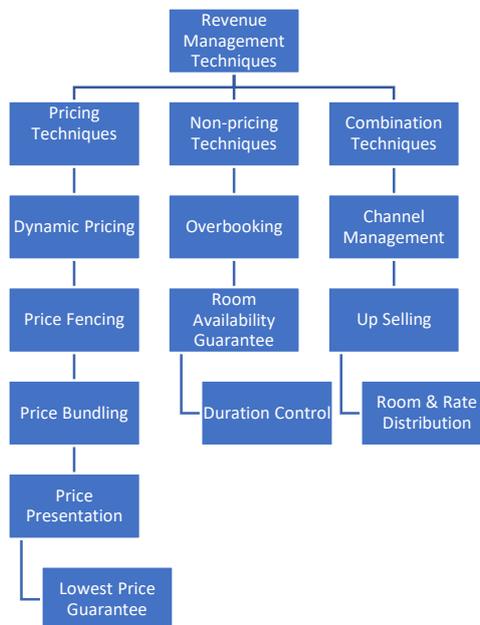


Fig No 1 – Classification of Revenue Management Techniques

Mayer (2014) states that dynamic pricing is to relate the strategies and tactics of modifying prices with regards to the demand for a certain time period. The main aim of dynamic pricing is to capture the diversified willingness to pay to customers. As per Saleh, Atiya,

Beck, Kim, Schmidgall (2018) describe dynamic pricing as similar to demand-based pricing but more sophisticated version of it. In order to achieve the goal of maximization of profit, dynamic pricing approaches price discrimination to find out the maximum price a certain specific customer can pay for a said period of time.

As per Ivanov & Zhechev (2011) the most integral part of pricing today is dynamic pricing. It assists hotels to maximize the revenue per available room and yield by providing a price which determines current level of occupancy and demand and amend it according to changes in demand and occupancy percentage.

Meerendook (2014) considers the concept of rate optimization which is selecting the room rate from a list of price points depending on historical price sensitivity of demand. The goal of revenue optimization is to understand the demand characteristics and price sensitivity to conclude to some data which will assist in defining prices which in turn will help in maximizing room revenue in a long term.

Research methodology

The paper is based on a detailed study based on developing of a ranking model of revenue management techniques. A questionnaire was formed and survey was done with 108, star rated hotels in Pune district of Maharashtra state in India. The hotels considered were three-star hotels, four hotels and five-star hotels. The ministry of tourism of India has published a document on their official website which describes the norms and parameters for various star categorization of hotels in India. The hotels who fulfill all these norms in Pune district form part of the target population.

The sampling method used was a stratified proportionate random sampling. The purpose of sampling was to consider the various hotels in the entire Pune district from the different strata- namely three-star, four-star and five-star hotels.

The sampling for resource person to fill up the questionnaire was done on judgement basis. So, non-probability judgement sampling was used to determine who will fill up the questionnaire. In hotels generally revenue management is handled by the revenue manager. Some hotels fail to have a revenue manager, so in his absence a front office manager, a sales manager or the general manager handles hotel revenue management. On basis of this judgement, the hotel used to be approached and the person in charge for hotel revenue management used to be asked to fill up the questionnaire.

Primary data consists of total of 108 star rated hotels who were approached and questionnaire were filled up. Secondary data consists of the various articles, journals, research papers, reports and articles on the internet on hotel revenue management. On basis of these total things, data was collected and a detailed analysis put forth.

Data analysis

The study included 108, star rated hotels in Pune district which included 3-star, 4-star and 5-star hotels

Table no 1 – Break up of star rated hotels

Hotels who follow revenue management					
Sr No	Particular	Classified by Ministry of Tourism	In Process for classification by Ministry of tourism	Total	Stratified Proportionate Random sampling
1	3-star	3	57	60	56
2	4-star	2	32	34	32
3	5-star	9	12	21	20
	Total	14	101	115	108

Table no 2 – Break-up of respondents

Designation/Hotel rating	3-star	4-star	5-star	Total
Revenue Manager	1	5	13	19
Front Office Manager	26	15	5	46
Sales Manager/Director of Sales	16	8	1	25
General Manager	13	4	1	18
Total	56	32	20	108

Test of reliability

To find reliability of the research instrument, Cronbach’s Alpha was calculated. As it is known that the instrument is reliable only when the Cronbach’s Alpha (α) is 0.7 or more. All the Cronbach’s Alpha (α) value was more than 0.7, so the research instrument was considered reliable. This value is calculated on the sample of 108 respondents

Table no 3 – Reliability of data

Independent variable	No. of items	Cronbach’s Alpha
Revenue Management Techniques		
Dynamic Pricing	5	0.713
Price Fencing	4	0.744
Price Bundling	5	0.804
Price Presentation	4	0.711
Lowest Price Guarantee	4	0.747
Overbooking	4	0.921
Room Availability Guarantee	4	0.877
Duration Control	5	0.851
Channel Management	5	0.713
Up selling	5	0.933
Room and Rate Distribution	4	0.866
Dependent variable		
Room Revenue		
Incremental Room Revenue	9	0.864

In case of both variable the Cronbach alpha value is greater than 0.7. Considering this we can say that the data collected is highly reliable for analysis.

Ranking Model

Table no 4 - Ranking Statistics- Room revenue

Variables Entered/Removed^a			
Model	Variables Entered	Variables Removed	Method
1	Room and Rate Distribution, Price Presentation, Room Availability Guarantee, Price Fencing, Price Bundling, Channel Management, Overbooking, Up Selling, Lower Price Guarantee, Duration Control, Dynamic Pricing ^b		Enter
a. Dependent Variable: Revenue			
b. All requested variables entered.			

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.579 ^a	.335	.259	.45247
a. Predictors: (Constant), Room and Rate Distribution, Price Presentation, Room Availability Guarantee, Price Fencing, Price Bundling, Channel Management, Overbooking, Up Selling, Lower Price Guarantee, Duration Control, Dynamic Pricing				

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.923	11	.902	4.406	.000 ^b
	Residual	19.654	96	.205		
	Total	29.576	107			
a. Dependent Variable: Revenue						
b. Predictors: (Constant), Room and Rate Distribution, Price Presentation, Room Availability Guarantee, Price Fencing, Price Bundling, Channel Management, Overbooking, Up Selling, Lower Price Guarantee, Duration Control, Dynamic Pricing						

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.351	.603		2.240	.027
	Dynamic Pricing	.066	.139	.062	.479	.633
	Price Fencing	-.182	.113	-.171	-1.606	.111
	Price Bundling	.175	.103	.191	1.695	.093
	Price Presentation	.318	.115	.293	2.763	.007
	Lower Price Guarantee	.146	.081	.214	1.803	.075
	Overbooking	.004	.067	.007	.058	.954
	Room Availability Guarantee	-.105	.072	-.163	-1.461	.147
	Duration Control	.036	.086	.051	.415	.679
	Channel Management	-.066	.103	-.071	-.645	.521
	Up Selling	.291	.115	.308	2.532	.013
	Room and Rate Distribution	-.086	.111	-.106	-.774	.441
a. Dependent Variable: Revenue						

Table no 5 - Ranking model- Room Revenue

Revenue Management Technique	Beta Coefficient	Rank
Price Presentation	0.318	1
Upselling	0.291	2
Price Bundling	0.175	3
Lowest Price Guarantee	0.146	4
Dynamic Pricing	0.066	5
Duration Control	0.036	6
Overbooking	0.004	7
Channel Management	-0.066	8
Room & Rate Distribution	-0.086	9
Room Availability Guarantee	-0.105	10
Price Fencing	-0.182	11

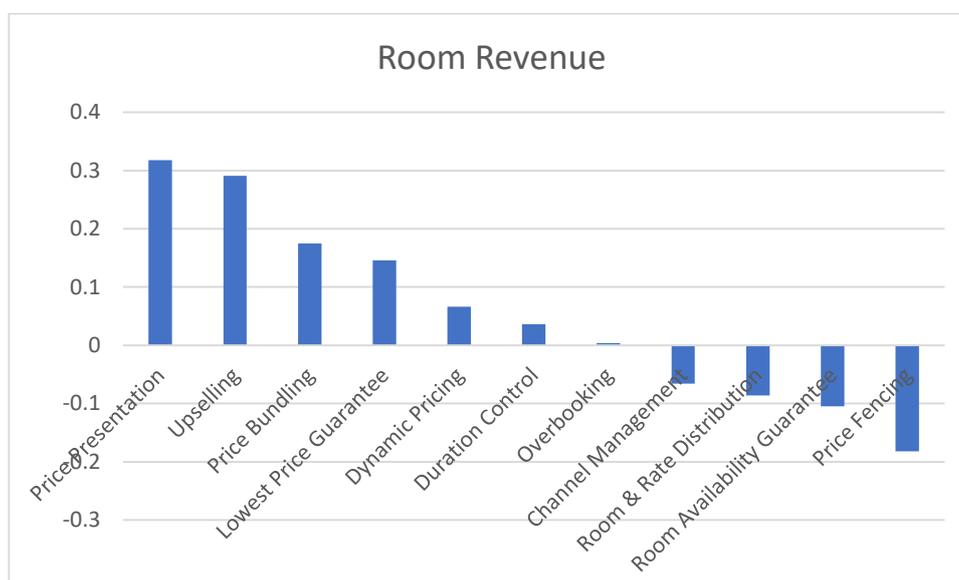


Fig no 2- Bar diagram- Revenue Management Techniques & Contribution to Room Revenue

When we consider room revenue, price presentation contributes the highest to the room revenue followed by upselling and price bundling.

Inferences

- By studying the ranking model, in terms of room revenue we can recommend hotels to use more of price presentation, upselling and price bundling. We see that, the pricing and combination technique help in achieve more of the incremental room revenue. The least effective techniques involve a lot of terms, conditions, restrictions, fences and obligations which make them provide the least result.
- Hotels who are having a high occupancy and are on the verge of getting sold out should apply all the strategies in conjunction to achieve the maximum room revenue results.
- Hotels who are on a low occupancy or are facing off-season should avoid using the revenue management techniques which have a lot of restrictions, terms, conditions, fences and obligations as they will in turn reduce the hotel room revenue and in turn the profitability.
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Conclusion

We thus conclude that the ranking model which has been presented can be effective when applied to various category of hotels in terms of room revenue. The current study also gives a boost for some future research in terms of revenue management techniques. The further research in the area can be study of ranking model for total revenue of the hotel.

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