

Revenue Management

Section Objective:

- 🌐 **Understand the core components of revenue management and how these are applied within the service sector.**

WHAT IS REVENUE MANAGEMENT ?

Revenue Management (RM) is the art and science of maximising revenue under variable conditions. It is a management tool that has the objective of increasing sales revenues by manipulating the prices at which fixed products (i.e. hotel rooms and airline seats) are made available for sale in relation to the current and forecasted demand.

Customers are now very aware that the price they would need to pay for an airline seat or a hotel room will vary significantly depending upon the point at which they make a purchase decision and the availability of the seat or room. This change in the way that customers perceive the pricing of these products has been relatively recent but universally accepted.

As revenue management has developed, it has become more disciplined and technical in using a variety of analytics to predict consumer demand, and to optimise the inventory and price availability to maximise revenue. The essence of this discipline is in understanding the customers' perception of product value and accurately aligning product prices, placement and availability with each customer segment.

HISTORY

The deregulation of the airline industry is generally seen as the catalyst for revenue management (and its precursor, yield management). The terms revenue management and yield management are often confused, yet there is a key distinction between the two disciplines. Whereas revenue management involves predicting consumer behaviour by; segmenting markets, forecasting demand and optimising prices for several different types of products, yield management refers specifically to maximising revenue through inventory control. Thus, “yield management” is a tactical application within the broader field of “revenue management”.

After the US Government deregulated the airline industry in the early 1980s, revenue management practices were first launched. Over the next few years, yield tactics became common practice among major airlines. However, revenue management may reasonably be assigned an inception date of 17th January 1985 when American Airlines launched its “Ultimate Super Saver” fares to compete with the low cost carrier PEOPLExpress.

Revenue management was born out of the need to fill at least a minimum number of seats to cover fixed operating expenses. Once these fixed costs were covered, the remaining capacity could then be sold at higher rates to maximise revenue and profit.

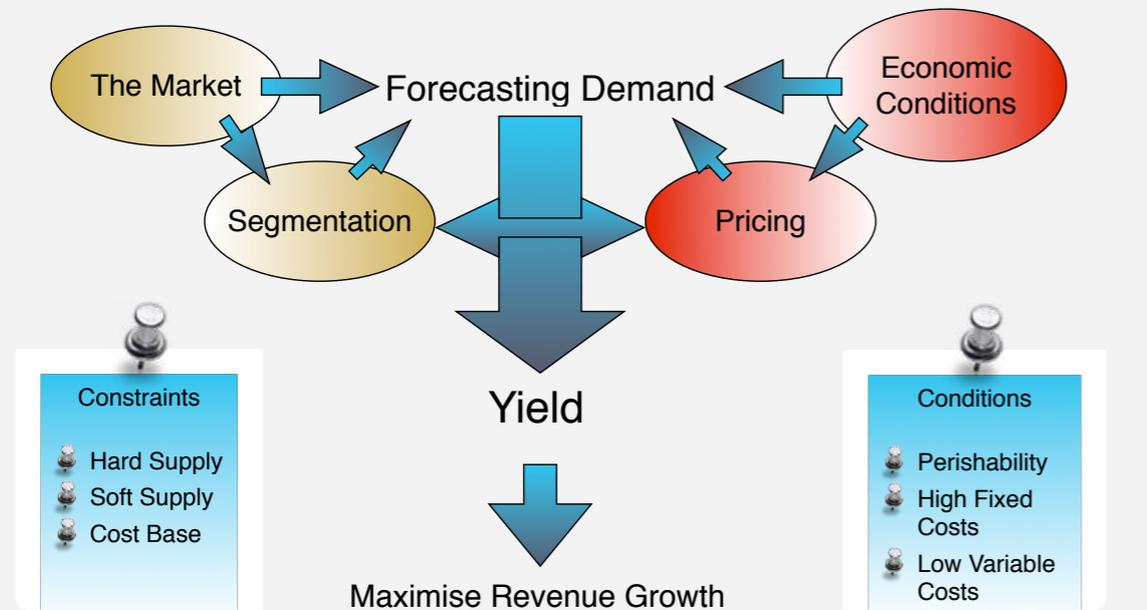
The hotel industry recognised the benefits of adopting a revenue management approach as practiced by the airline sector but initially growth of the technique was held back by the lack of appropriate technology available to manage data and the shortage of meaningful information about guests. The final challenge to overcome was how to manage the length of stay – a feature which is different to that experienced by the airlines.

CORE COMPONENTS

Most businesses will face complex decisions regarding their pricing and selling strategy. Namely, what product to sell, who is the target customer, when is the ideal time to sell, how much to sell that product for, and what is the “best” route to market (considering such factors as cost of sale and brand image).

An overview of the key variables in revenue management is shown in Fig 1. It is the complex interrelationship between the variables that needs to be understood to be able to make management decisions on pricing and yield to generate revenue. As the model illustrates the complexity is bounded by the constantly changing pressures on the different variables, the market is influenced by economic conditions, pricing similarly, the segments of the market change by the nature of the purchase decision and customers changing expectations. At the heart of the revenue management strategy is the customer, as understanding customer behaviour and attitudes towards price

Figure 1 Components Revenue Management



and purchasing is a core determinant in the success of any company's revenue management strategy. With the overall aim of maximising revenue, being able to manage variables in this complex equation relies on an understanding of the dynamics of those variables and how they change over time. Reliance on automated complex algorithms is not the entire answer as it's the underlying concepts that need to be properly understood to have confidence that any algorithm will produce an appropriate result. The ability to scan the wider economic environment and understand trends is an important consideration when forecasting demand.

Revenue management is of particular value in situations where the proportion of fixed costs is high compared to the proportion of variable costs. The less variable cost there is the more added revenue will contribute to overall profit. For example when a hotel room is sold for £300 per night only a small proportion of this selling price is spent on variable costs such as guest amenities, cleaning, laundry and energy consumed. Variable costs may only amount to around 10 - 20% of the selling price. The remainder is the contribution to fixed costs and then profit.

As a result the concept of revenue management can be applied to the selling of hotel bedrooms and to other areas in the hospitality industry such as conference and banqueting, and food and beverage where the management of fixed resources is essential to maximise profit.

Revenue management relies on the collection of data and factual evidence to support strategies and their tactical application, to increase both revenue and profit. Revenue management uses the basic principles of supply and demand economics, in a tactical way, to generate incremental revenues.

Revenue management in the service sector is distinct and more complex in comparison to other sectors. For an overview of the current use of RM in the hospitality sector read this opinion piece by Dr. Gabor Forgacs.

www.hospitalitynet.org/news/4059233.html

CONDITIONS AND CONSTRAINTS

To be of practical use, revenue management can only exist where certain sets of conditions and constraints apply. These conditions and characteristics, whilst not individually unique to the service sector, when taken together, provide a complex set of interrelationships that need to be analysed and understood.

There are a number of essential conditions for revenue management to be applicable. These are shown in Interactive Diagram 1.

Condition 1 and 2 taken together characterise the supply constraints. There is a limited supply only available at that moment in time. This is referred to as “hard supply”. The hotel has a fixed number of rooms, the airline has a fixed number of seats, and the cruise liner has a fixed number of cabins. Soft supply however is a constraint where it may be possible to increase supply to meet demand but that supply may not be at the times or indeed places where the demand is greatest. For example a restaurant could increase its opening times to increase the availability of seats and supply but that in turn may not increase the revenue unless customers come during those times and spend money.

Not only is the supply fixed it is also perishable. An airline seat, cabin on a cruise liner, a room or a meal, cannot be stored in inventory and reused on another occasion. If not sold for the specific flight, cruise or day, the opportunity for the sale is lost.

The customer must be prepared to pay variable prices dependent upon the nature of the product and the demand. The fact they're

Interactive 1 Essential Conditions for Revenue Management

Explore the

The diagram features a blue calculator with 'PROFIT' on its display and a spreadsheet with financial data. Five callout boxes labeled 'Condition 1' through 'Condition 5' are connected by lines to a central point on the calculator's display. Below the diagram is a navigation bar with a left arrow, a play button, and numbered buttons 1 through 5.

Category	Value	Value
Charges	37,154,000	36,6
	15,176,000	16,2
	826,000	1,62
	3,093,000	3,00
	9,095,000	20,91
	168,000	3,62
	1,000	2,632
	000	3,311

prepared to pay a variable price for the same product as with airline seats and hotel rooms creates the unique environment in which revenue management can work.

Low variable costs, this refers to the relatively low costs in servicing either the airline seat or the hotel room.

High fixed costs,; this refers to the conditions where there are high fixed costs in providing the product or service that need to be recovered. The costs of operating the airplane, the cruise liner or the hotel are largely fixed irrespective of the number of passengers or guests using them.

Hard supply; this is a constraint where the operator cannot increase or decrease the number of seats or rooms they offer in relation to the demand.

Constrained supply; is a key feature of revenue management and is defined as:

‘When sellers cannot readily increase the amount of products or services available for sale when consumer demand for them increases.’

As the term “Revenue Management” is often misused and frequently misunderstood, it is therefore important to understand the key components and concepts that will be discussed throughout this introduction.

SEGMENTATION

Segmentation is the practice of subdividing or “bucketing” customers or guests into groups with similar behaviours. Each

segment should respond in a different way when presented with the same proposition. Traditionally, hotels segment their guests based on the purpose of the stay. To be effective, segmenting the market must meet certain criteria as shown in Figure 2.

FORECASTING DEMAND

Most revenue management practitioners consider this to be at the core of their RM approach and application. Without an accurate forecast, pricing and yield tactics cannot be effectively applied. Despite this, forecasting still proves to be a challenge for many organisations.

Forecasts are often used in a variety of ways throughout the organisation. At a high level, these can be seen in Figure 3.

Demand forecasts are an essential part of a Revenue Management System. For example in a hotel, a demand forecast is usually calculated by taking the actual number of reservations on hand (actual number of rooms booked) and adding the predicted number of rooms that will be booked (this is sometimes known as pickup).

As Movie 1 shows in times of high forecast demand, setting a high price point will maximise revenue, however if the demand forecast suggests that the demand is lower than usual, it may be appropriate to open a lower price point/band to stimulate demand.

Figure 2. Effective Segmentation

Effective segmentation:

Measurable: It has to be possible to determine the values of the variables used for segmentation with justifiable efforts. This is important especially for demographic and geographic variables. For an organisation with direct sales (without intermediaries), the own customer database could deliver valuable information on buying behaviour (frequency, volume, product groups, mode of payment etc).

Relevant: The size and profit potential of a market segment have to be large enough to economically justify separate marketing activities for this segment.

Accessible: The segment has to be accessible and servable for the organisation. That means, for instance, that there are target-group specific advertising media, such as magazines or websites the target audience likes to use.

Distinguishable: The market segments have to be that diverse that they show different reactions to different marketing mixes.

Figure 3 Forecasts

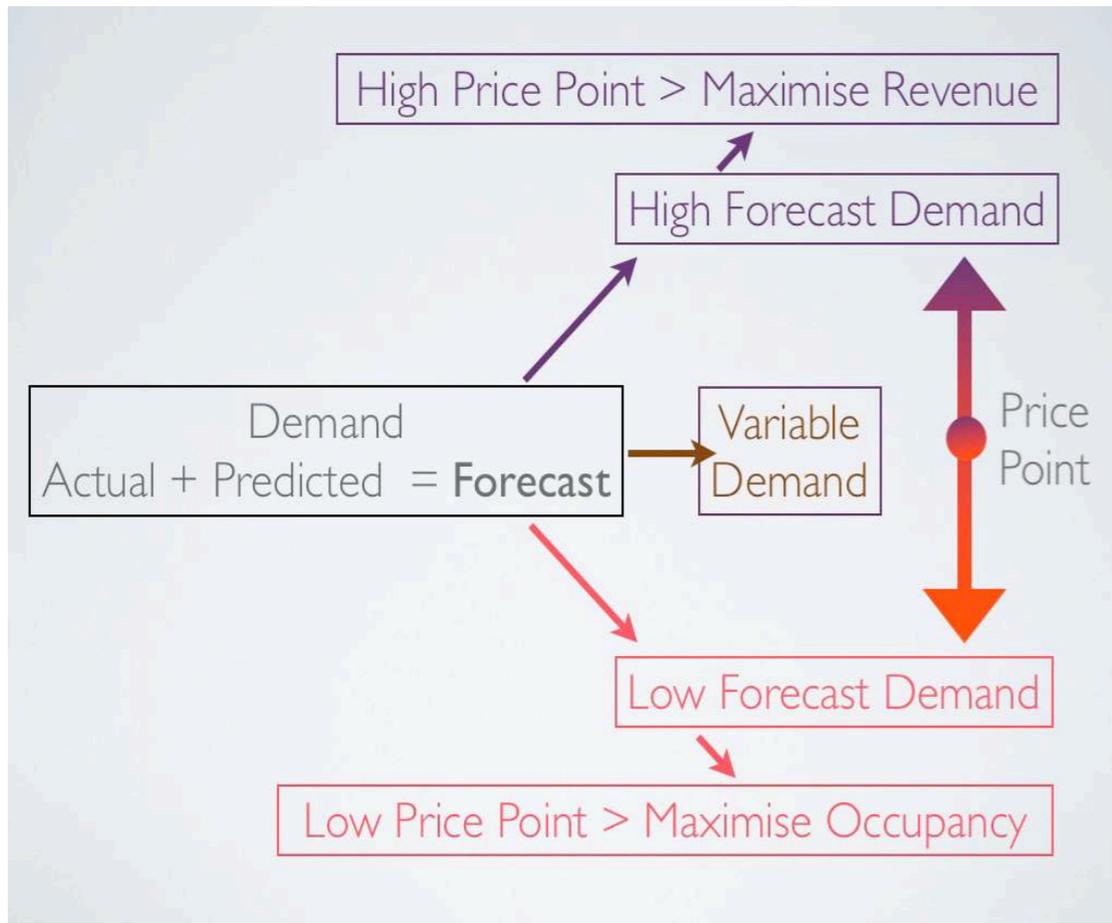
Forecast Type	Purpose	By Whom	Frequency
Demand Forecast	To understand the unconstrained demand. Used to apply pricing and yield tactics.	Revenue	Short Term: Daily and Weekly Medium Term: Monthly and Quarterly
Financial Forecast	To understand future revenue and costs. Identify shortfalls.	Revenue Finance	Short Term: Weekly Medium Term: Monthly and Quarterly
Operational Forecast	Required to complete operational tasks such as scheduling and maintenance.	Revenue Finance Operations	Short Term: Daily and Weekly
Strategic Forecast	To understand the long term revenue performance, demand implications and market conditions.	Revenue Finance GM Corporate	Medium Term: Monthly and Quarterly Long Term: Annually

As demand can be variable and change over time, flexibility in establishing the appropriate price point is essential if revenue is to be maximised.

In a dynamic pricing environment, where prices change regularly, the decision to open or close different price points is based on the demand forecast for that particular day.

Beware! The term forecast can mean different things to different people. People in the Finance team will think of a forecast as

Movie 1 Forecasting Demand



Touch screen to start, turn up volume

similar to a budget, which is very different to the view of revenue managers who think of the forecast as the prediction of demand.

An accurate demand forecast is one that is compiled day by day, by market segment.

PRICING

Upon completion of an accurate forecast, the business is in a position to revisit their tactical pricing approaches.

Correct pricing is, without doubt, one of the largest and most critical success factors in an organisation's strategy. Revenue management techniques have a large part to play in establishing the "right" price.

The primary aim of pricing is to determine the maximum revenue and profit that is achievable through the product or service that you have available for sale, by considering each segments' willingness to pay. This willingness to pay, or price sensitivity, is driven by the value that each consumer places upon the product.

Pricing tactics will then determine how a company can capitalise upon that value perception. Tactics may include price ranking against competitors, market penetration tactics or, the most valuable approach of following market conditions of supply and demand.

Pricing involves both science (dynamically changing prices based on price sensitivity, price ratios, unconstrained demand and remaining capacity) and art (understanding customer segments, their attitudes towards the product and where they place value). This is often referred to as 'pricing discrimination'.

YIELD

Upon completing the pricing review, the next stage in the RM methodology is to apply inventory or yield controls. Yield tactics are also known as inventory controls and, if applied correctly, can have a considerable impact on the businesses ability to “optimise” on revenue and profit potential. The use of yield tactics allows businesses to maximise revenue opportunities during high demand days and maximise occupancy opportunity during low demand days.

The primary yield tactics are shown in Figure 4

REVENUE GROWTH

Revenue growth occurs by maximising the revenue opportunities through a thorough understanding of the demand supply pricing relationships and flexibility in applying pricing tactics over time. If demand is high, the closer to the time when a particular product “perishes”, the less flexibility and variability will occur in the pricing. If demand is low however the reverse applies. As demand can change significantly over time it is important to be able to track that demand, amend the forecast and implement variable pricing quickly in order to be able to respond to the market and maximise revenue.

Figure 4 Yield Tactics

Yield Tactic	Primary Application
Maximum Length of Stay MaxLOS	A reservation is restricted to a maximum duration. Often used to limit the availability of discounted or promotional rates.
Minimum Length of Stay MinLOS	A reservation is restricted to a minimum duration. Often used during high demand dates to optimise on demand for longer lengths of stay.
Closed to Arrival CTA	No reservations are permitted with arrival on a particular day. Often used to encourage stays into shoulder dates, but risks turning away long stay bookings.
Allocations	Partners are given an allocated number of rooms to sell within the hotel, often at a discounted rate.
LRA	Key accounts are guaranteed availability within the hotel; on the room type they have contracted rates for, as long as that room type is still available for sale.

APPLICATIONS OF REVENUE MANAGEMENT WITHIN THE SERVICE INDUSTRY

Revenue management is applicable within most of the service industry, although it can be applied in a variety of ways.

As the interactive illustration (Interactive 2) shows, the most successful yield management applications are generally found in Quadrant 1 and 2 industries, because they can manage both

capacity and customer duration. The other quadrants can all implement RM techniques, but there are undoubtedly greater challenges in these areas due to the unpredictable nature of the guest 'visit'.

Interactive 2 Where is RM most applicable?

		Price	
		Fixed	Variable
Duration	Predictable	Quadrant 1 Cinemas Stadiums Convention Centres	Quadrant 2 Hotels Car Rentals Cruise Liners Airlines
	Unpredictable	Quadrant 3 Restaurants Golf Courses Internet Providers	Quadrant 4 Hospitals

Additional Reading: Chapter 1, Cooper, C., Whittington L. (2010) Hotel Success Handbook. MX Publishing, London.

Review Questions: Revenue Management and Businesses

Question 1 of 5

Why is RM Important ?

- A.** Predicts Growth
- B.** Creates Sales Leads
- C.** Improves Yield
- D.** Reduces Costs
- E.** Generates Revenue

Check Answer