

Overview of Yield management taxonomy: Efficiency and profitability for hospitality field

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ABSTRACT

This paper aims to highlight the dimensions of yield management. It is a relatively new concept which, since its appearance a few decades ago, has been enriched by research conducted here and there. Custom pricing, segmentation and demand forecasting are all new elements that need to redefine the content of the concept in depth.

1. Introduction

The problematic related to the understanding of Yield Management leads us to seek a simple definition, to establish its conditions of application and to define its objectives.

Yield Management is a term of Anglo-Saxon origin and its translation into French has attracted attention. Some researchers equate Yield Management with income management. This assimilation is abusive but often accepted when Yield is considered as a generic term. Yield Management is essentially a price / capacity system. Its purpose is not only the management of returns but rather the optimization of the overall income of a fixed capacity. It is not just a computerized system or a discounted price offer to customers; it is a forecast management strategy applicable in sectors with limited capacity (Zrelli, 2010).

Yield Management can be defined as a pricing personalized and dynamic that allows retaining customers. It is based on a computerized system, a modeling and a potential evaluation of the different segments of customers over a period of time.

Yield Management aims to improve the occupancy rate and the average unit selling price in order to optimize the overall profit of a company (Zrelli, 2018).

We can thus find the key elements of its definition. It is a predictive management of the demand by segment and by product offered, making it possible to optimize the profitability of a fixed capacity by means of a real-time control of the capacities and the tariffs.

2. Yield Management Application

In general, Yield Management is not applicable presumably to all distribution sectors, not all forms of sale (see figure n°1).

A large supermarket can not change its prices during the day to take into account the influx of customers for example. It would be interesting to determine what the characteristics of the companies are likely to benefit from it.

Figure 1
Strategic level of the yield management

		Price	
		Fixed	Variable
Duration	Predictable	Quadrant 1: Movies Stadiums/Arenas Convention Centers	Quadrant 2: Hotels Airlines Rental Cars Cruise Lines
	Unpredictable	Quadrant 3: Restaurants Golf Courses Internet Service Providers	Quadrant 4: Continuing Care Hospitals

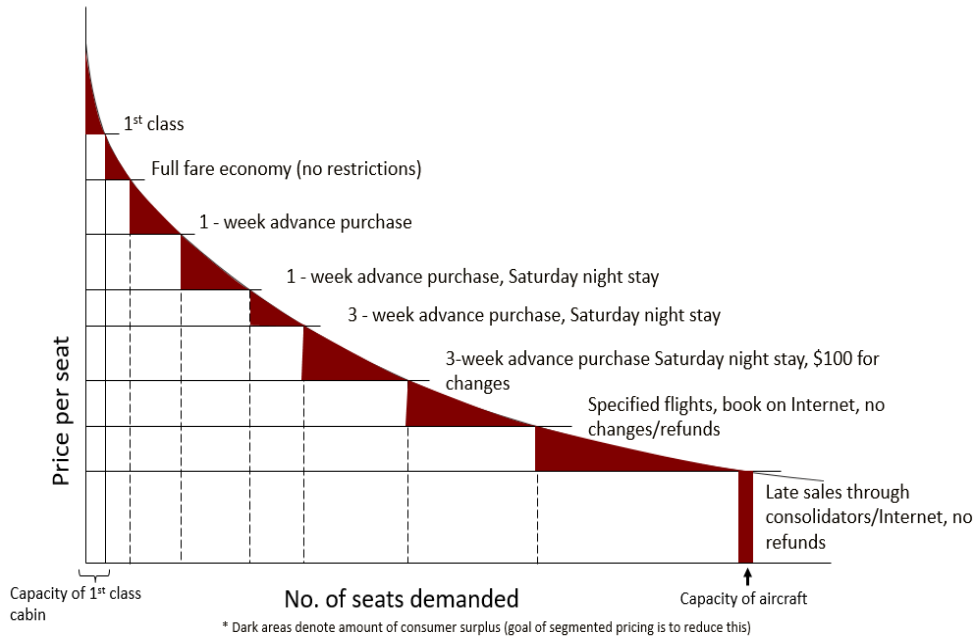
Kimes, Chase (1998)

3. High fixed cost

The application of Yield Management would only be profitable if it is a large-capacity firm. Setting up such a project is expensive for a company.

This is why it is only possible for companies that incur a high fixed cost. Generally, in the case of service companies, variable costs represent only a small percentage of fixed costs (see figure n°2).

Figure 2:
Pricing and demand



Zeithaml, Bitner (1996)

For example, in the hotel industry the variable costs associated with the occupancy of a room (cleaning) represent a small part of the fixed costs (the amortization of the building or the cost related to the staff).

Note also that the cost of a flight depends more on the aircraft in addition to infrastructure and crew than meal trays.

4. Perishable character

Also, is it interesting to see the perishable nature. It is actually remarkable that the sale mainly concerns obsolete products or services whose value falls to zero after their validity date (figure n°3).

Figure 3
Yield management and services

Parameter	Airline	Hotel	Car rental
Unit of capacity	Seat	Room	Car
Number of resource types	2-3 (e.g., 1 st -class and coach seats)	2-10+	5-20+
“Capacity” at a location fixed or variable	Fixed	Fixed	Variable
Mobility of capacity	Small	None	Considerable
Number of possible prices per unit	Many (3-7+)	Few (2-3+)	Many(4-20+)
Duration of use	Fixed	Variable	Variable
Corporate discounts	Occasional	Yes	Yes
Capacity managed locally or centrally	Central	Central/local	Central/regional/local

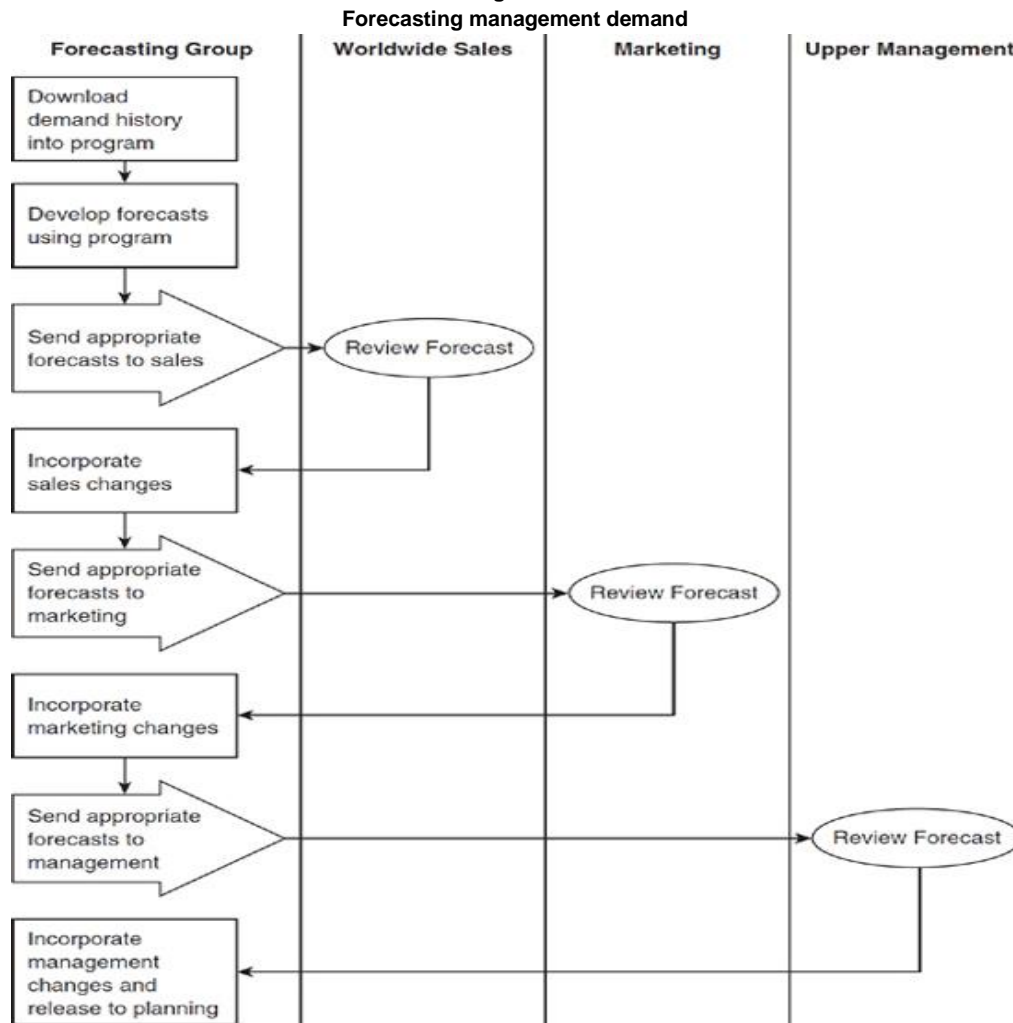
Netessine, Shumsky (2002)

Thus, an unoccupied room has no value once the night passed, likewise an empty seat has a residual value zero once the flight has been made.

Demand should be so predictable. The application of Yield Management is based on a forecasting system based on a historical database by customer segment. This system makes it possible to analyze the critical events on which it is necessary to act in priority (see figure n°4).

5. Predictable demand

Figure 4



Mentzer, Moon, (2004)

6. Booking system

The sale is made before the date of actual use by means of a reservation system or order taking.

This is justified, as has already been presented, by the fluctuation and the lack of control of the demand. This is sometimes inferior and sometimes higher than the offered capacity.

7. Several customer segments

Purchasing behavior should differ depending on the market segment. This predicts the existence of several segments. In the case of hotel services, for example, the demand of businessmen is not the same as that of students or groups.

In addition, there must be a segment of price-sensitive

consumers who accept constraints limiting flexibility regarding the departure date or the total length of stay, for example. Thus, the fact of setting up access barriers and sales quotas for each tariff category limits the price reduction applied to the most price-sensitive consumers.

Also, the probability that part of each consumer segment will accept offers developed for other segments should be very high. However, a cheaper sold service should not be interpreted as being of inferior quality.

8. Various commercial offers

The multiplicity of tariffs makes timely the presentation of different commercial offers due to satisfy the different consumer segments.

The Yield Manager of a company should give the necessary explanations for each combination of service and price to develop a sense of confidence among consumers.

9. Electronic distribution

The distribution of service should be electronic. The choice of Internet as a communication and marketing tool proves to be all the more motivating as it is reaching a growing rate of use.

It is essentially with the Internet that the dissemination of prices and the availability of products to millions of Internet users have become commonplace.

10. objectives

The multiplicity of objectives related to Yield Management makes it possible to regroup them into three main sub-objectives: the improvement of the average price and the occupancy rate, the evolution of the income per available room

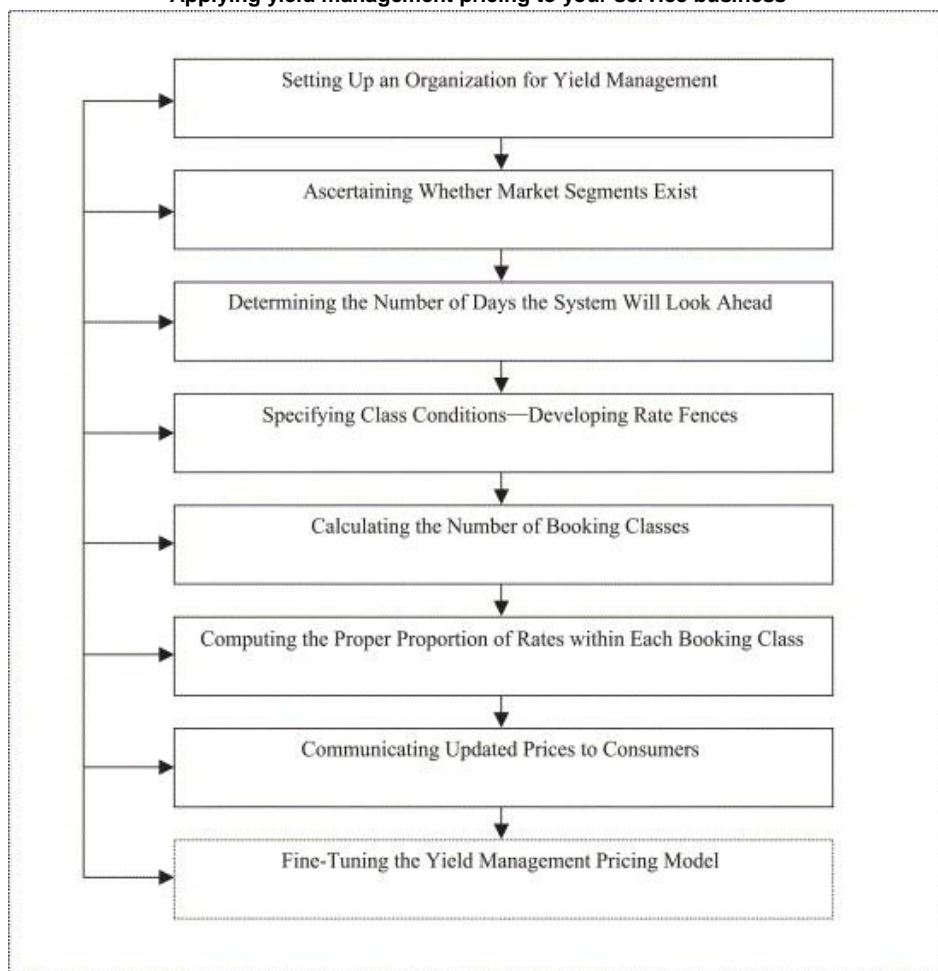
and the realization of the satisfaction of the customers.

11. Price improvement average and occupancy rate

Yield Management seeks to sell all available capacity at the best price. The optimization of the overall income of a firm is materialized by the promotional sale of benefits which, in any case, without this practice, would have been lost.

The search for revenue improvement is essentially based on the renunciation of selling more in a period of low attendance. Similarly, this practice allows for a balance between periods of high and low activity by valuing the price component during periods of high demand and taking advantage of the volume component in times of low demand (see figure n°5).

Figure 5
Applying yield management pricing to your service business



Berman (2004)

This time it is to optimize the capacity offered by a firm. If the capacity is equal to or less than the demand, the firm is in this case in full use of its infrastructure.

If the demand is below capacity, we are talking about a malfunctioning situation. Faced with such a situation, the firm must not sit back, it must instead take a preventive position.

That's why, when it anticipates a strong demand, it keeps only the customers who agree to pay the high price. Similarly,

in periods of low attendance, it is obliged to offer advantageous prices.

With the aim of encouraging customers to change their habits consumption, Futuroscope (an amusement park in France) has tried to adopt this management practice.

Indeed, Castan (1997), director deputy general of Futuroscope, when he noticed that "the same amount was paid on the week-end and the week, whereas Saturday and Sunday

are traditionally more charged", he judged the usefulness of a good management of affluence.

Yield Management provides an optimal solution to the matching of supply and demand.

12. Income evolution per available room (RevPAR)

The Revenue Per Available Room (RevPAR) indicates the performance of the pricing policy in relation to the filling. It can be calculated in two ways:

It is the total revenue of the rooms divided by the number of rooms available; This is the average price multiplied by the occupancy rate.

For example, the RevPAR of a 200-room hotel, which has sold 120 rooms with an average rate of 110 dinars, is equal to $(120 * 110) / 200 = (120/200) * 110 = 66$ dinars.

If it is possible to sell another 40 rooms at 90 dinars, RevPAR becomes equal to $[(120 * 110) + (40 * 90)] / 200 = 84$.

In order to manage RevPAR, a hotel infrastructure should set the number of rooms to be allocated in each rate class.

The distribution will lead the hotelier to have a good customer allocation per room and to improve the profitability within each set of rooms belonging to the same fare class.

Through the existence of several price levels corresponding to different targets, Yield Management presents a real commercial lever aimed at meeting the needs of consumers.

Its application takes into account in the first place marketing information on the market segments.

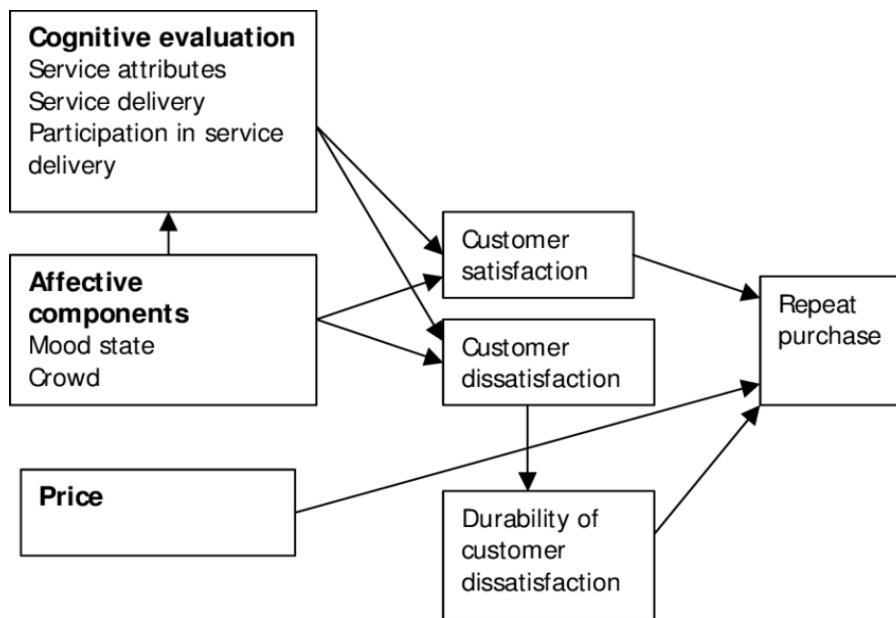
After having distinguished the different categories of consumers and the elements to which they are more sensitive, it would be interesting to offer them personalized or preferential offers while taking into account the achievement of the most advantageous margins.

The purpose of these offers is to spread attendance to satisfy both consumers who are concerned about their wallet and those who are willing to pay the high price.

This is why the search for consumer satisfaction, by focusing on the service for which the firm can guarantee a good margin, improves the quality of the relationship between a provider and its customers (see figure n°6).

13. Realization of the satisfaction

Figure 6
Conceptual framework of customer satisfaction and repeat purchase intention of customers of low cost airlines



Yeoh, Chan (2011)

So the importance of studying consumers leads the company to dynamically analyze its share of consumers rather than its share of market.

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