

Yield Management Practices in the Service Sector -Theoretical Approach

Keraghel Adel ^{*1}, Mahleb Faiza ², Kourtel Farid ³

¹ University OF Ferhat Abbas -Setif 1-. (Adel.keraghel@univ-setif.dz)

² University OF Ferhat Abbas -Setif 1-. (Faiza.mahleb@univ-setif.dz)

³ University OF Ferhat Abbas -Setif 1-. (Farid.kourtel@univ-setif.dz)

Abstract

Yield management, also known as revenue management, is a pricing approach used by service companies, particularly in the hospitality, aviation, and car rental sectors, to optimize their profits. The basis of this concept is to adjust prices according to demand and available capacity, which allows for revenue optimization.

This study aims to shed light on the concept of yield management and its application conditions, limitations, tools, implementation steps, as well as its impact on customer satisfaction.

Key words : yield management, service, customer

1- Problematic

Despite the development that has been experienced in the use of yield management to overcome the difficulties faced by the majority of service establishments in terms of balance between supply and demand and its effective role in the management of their fixed capacity, allowing them to make great profits in recent years following the emergence of ICT such as the Internet, modern software, despite all this, it remains little practiced and unknown in Algeria compared to other countries and this despite the gigantic investments deployed in this sector, which prompted us to begin research into the practices of this technique that we will address in our communication in order to answer the following main question:

- what are the yield management practices in the service sector?

From this question, several arise as follows:

- What exactly is yield management?
- what are the different yield management practices in the service sector?
- what are the different impacts of yield management on customer satisfaction?

2- Objectifs

- Know what yield management is
- Know the different yield management practices in the service field
- know the impact of yield management practices on customers

II- Yield management

1- Definition of yield management :

There are an indefinite number of definitions concerning the term yield management that represent different points of view - Leimkhuler and Darrow (1992) define yield management as a "sophisticated form of supply and demand management by simultaneous action on rates and available capacity, it is a process of allocating the best service to the best customer at the best price" (Smith, Leimkhuler, Darrow, 1992) - Jones (2003) defines yield management as "a system intended for the owner of the company to maximize profitability through advanced management, by identifying the potential of market segments, evaluating their value, setting prices, creating rules for reducing fares and travel to

establish an advanced reservation process and controlling the effectiveness of these rules as well as their implementation" (Yousfi Ilyas, Hammich Mohamed, Chakor Abdellatif, 2018, p. 6)-

(Zrelli, 2010) grouped the definitions relating to yield management under several categories according to the following table:

Definitions	References
Sets of techniques	Daudel et vialle (1989)
Income technique	Donaghy et al (1995)
Management technique	LeGall (1998)
Practice	Autissier (2000)
Approach	Kimes (1989)
Management system	Lehu (1999)
True management lever	Desmet (1999)
Integrated approach	Lieberman (1991)
Art and manner of acquiring knowledge	Cross (1998)
A kind of philosophy	Legall (1998)

Source: Imen Zrelli, The determinants of yield management orientation, an exploratory approach, 2010, N: 207, Revue française de gestion, p. 63 – 82

2- Some information on yield management

We present some information about yield management (www.coursehero.com , 30 .11.2022. 19:30):

- each establishment or company that practices yield management generates an increase in turnover of 8% on average
- yield management is generally practiced by - Companies with a high share of fixed costs.
- yield management is based on market segmentation.
- yield management requires a cultural change within the organization.
- yield management requires a marketing information system.

3- History of yield management

- In 1978, the American government decided to deregulate air transport prices.
- This resulted in a price war between the different airlines that resulted in mergers and acquisitions.
- This concept was first applied by the American airline Delta Airlines in 1984
- Marriott was the first hotel chain to apply this concept in its field in 1989
- It spread to Europe in the 90s and affected other sectors such as maritime transport (ferries and cruises), rail transport, car rental, advertising space rental

4- The yield management strategy

Generally, service establishments use two different strategies in order to maximize their revenues (Frochot.Legoherel, 2018, p.214):

- quantitative strategy - qualitative strategy

- Quantitative strategy

It consists of increasing the occupancy rate by systematically practicing low prices intended to sell the units which would remain unsold shortly before the day when the service is delivered.

- Qualitative strategy

It consists of valuing the average price per unit while maintaining the prices charged For the sake of preserving its brand image and its positioning on the market But these two strategies have proven their limits for the following reasons:

- By applying high prices, the establishment risks not attracting many customers, so it will not be able to achieve the expected profits
- By applying low prices, the establishment risks making few profits Which do not cover all the (fixed) costs Therefore, the strategy now sought by service establishments consists of finding the right balance between these two strategies.

Selling the maximum number of units and maintaining an acceptable price level through the practice of yield management by practicing flexible prices to make their structures profitable

5- The objectives of yield management

Yield management aims to achieve a certain number of objectives (Imene zrelli, 2010, p.67):

- Availability management
- Segment management
- Risk management
- Time management
- Pricing management
- Allocation of rates by room class
- Matching supply and demand
- Optimization of average price and occupancy rate

6- The conditions for applying yield management:

According to Kim, yield management is applicable in companies that have the following characteristics (Kim,1989):

- perishable product;
- fluctuating demand;
- possibility of segmentation by price;
- fixed capacity to manage;
- possibility of advance reservation;
- predominance of fixed costs.

- Perishable product

Service establishments are unable to stock their products (hotel rooms, airplane seats), the value of which falls to zero after the validation date, which forces these establishments to apply low prices to sell their accommodation capacities.

- Fluctuating demand

Most service establishments often face fluctuating (seasonal) demand due to the imbalance between supply and demand (fixed capacity) this is always evident in hotels, cinemas, theaters, gyms, thanks to the yiled management technique, establishments offer lower rates to customers when demand is low and higher rates when demand is high.

- Possibility of segmentation by price

the value of service differs from one customer to another, establishments that practice fixed prices lose a lot of profits, there are customers who are ready to pay a high price for the service received, they seek comfort, prestige, therefore, the establishment must attract them, retain them to better serve them and take advantage of them, on the other hand, there are

customers who seek promotional prices (families, tourist groups) so, the establishment must not neglect them, grant them promotional offers to take advantage of them segmentation is a beneficial tool for service establishments wishing to increase their market share and strengthen their competitive positions

- **Fixed capacity to manage**

Generally, the capacity (supply) of service establishments is fixed unlike demand which is variable, when demand exceeds supply, service establishments are unable to serve additional customers.

- **Possibility of advance reservation**

The application of yield management assumes the possibility of reservation and purchase before the date of use in order to fill the existing capacity, yield management plays on two levers, namely, price and time, therefore the majority of establishments offer the same service at different prices during different time intervals.

- **The predominance of fixed costs**

In service establishments, fixed costs represent 85% of all costs, such as electricity, salary, insurance, on the other hand the costs relating to the sale of a seat or the occupation of a room (cleaning) represent a minimal part of the costs borne by the establishment, therefore service establishments must cover their fixed costs by maximizing their profits through yield management.

7- The principles of yield management

The yield management system is based on the following four principles (Sebastien Beaud, 2015, P. 09)

- Differentiated pricing;

- Quotas;

- Overbooking;

- Seasonal pricing.

- Differentiated pricing Differentiated pricing must be based on the following rules:

- price sensitivity:

different customer segments respond differently to the prices offered.

- segment sealing: each customer is associated with a segment, a given price, a given service.

When the customer finds an opportunity to access an advantageous rate, he tries to escape from his segment, therefore, the service provider will put up barriers and constraints to maintain segments as defined when setting up the price lists.

- The quota the company creates quotas that correspond to a certain number of sales units, each quota has a certain number of units to sell at a price defined in advance in order to keep (place, room) for the customer who are ready to pay a high price.

This quota is done on the analysis of the sales history, the calendar of events, the characteristics of the market, it is done using very sophisticated algorithms and methods, For example, a customer reserves a hotel room at a given price that corresponds to a quota open for sale, several situations can arise:

- the quota is not full, we accept the reservation.

- the quota is full, the hotel management proceeds to:

- acceptance of the reservation by taking a sales unit in a lower rate (reduction of the quota).

- acceptance of the reservation by practicing overbooking on this quota.

- refusal of the sale at the requested rate but he manages to sell at a higher rate. Acceptance of the reservation at the requested price but at another date.

- Overbooking - a practice that consists of selling more (ticket, room) compared to the available capacity to compensate for no shows (cancellations), yield management allows to calculate a good overbooking rate, which would help to compensate for late cancellations.

- Seasonal price Thanks to the software and computer programs that yield management uses, hotel managers can vary prices between seasons, or even weeks, days, by taking into account the demand history, during the high season, the service company increases its prices by reaching customers who are willing to pay a high price, unlike the low season where the service company lowers its prices by reaching price-sensitive customers.

8- The advantages and disadvantages of yield management The application of yield management to generate a lot of profits and helped different service companies to improve their performance in managing their accommodation capacities, however, this practice has many advantages and disadvantages (www.mews.com . 29 .11.2022 . 17:02):

- The advantages -Increase in turnover;
- Understand booking models;
- Increase perceived value;
- Eliminate pricing errors; -Effectively segment pricing.
- The disadvantages
- lack of preferential treatment for regular customers;
- not taking into account customer expectations;
- the risk of making incorrect forecasts.

9- The limits of yield management (www.manager-go.com . 29-11-2022 . 17:32)

- Lack of price visibility for the customer; - Difficult anticipation of the price the customer should pay;
- In uncertain anticipation of demand for the company (impossible forecast of certain major external events and likely to impact demand;
- The yield management system needs adjustments to ensure a certain reliability.

10- Yield management system application steps

For the practice of yield management to be well applied, service companies must follow a certain number of stages to be able to achieve its objectives relating to this practice (Nezha Fatima Beloud, 2021, p.1086):

- Analyse the sales history -Par periods (hours, days, weeks and months depending on your activity)
- Par segments of customers
- Par price levels
- in relation to your available capacities (occupancy rate) The above elements have an impact on the level of supply and demand during the periods considered
- Segment and define a model of pricing classes and commercial targets Segment your in several categories:
- Business or leisure segment
- Travel agencies segment
- Tours operators (customers or groups with all inclusive package)

Price fixing :

After doing a market study, it is essential to develop prices to optimize hotel sales.

The price is first established according to external constraints imposed by customers, their purchasing power, their consumption situation, the value they grant to our products and by the competition which offers a price according to its own internal constraints and its strategy. The price must also meet internal constraints (investment, operating expenses,

profit objective) of the company to ensure sufficient return on investment Effectively communicate the prices Communication of prices with commercial targets by finding the right information relays, especially on the Internet. Dourned daily performance and relevance of tariff classes Monitor the evolution of your sales compared to available capacities, your turnover, the result by segment and profitability.

The following examples illustrate the previous steps well:

Example 1

Hotel x has a capacity of 20 rooms

For day x

The total cost for the hotel is \$1000

25 potential customers with different budgets are likely to rent a room for this day as follows:

5 customers with \$50

5 customers with \$60

5 customers with \$70

5 customers with \$75

3 customers with \$80

2 customers with \$100

Scenario 1 The hotel applies a single rate at \$75

- 15 people are not ready to rent a room because of the price

- 10 people book at a price of \$75 Hotel revenue:

\$750 Daily profit: \$250

Scenario 2

The hotel applies three price levels at \$60, \$70, \$80 -5 people pay \$60

-10 people pay \$70

- 5 people pay \$80 Hotel revenue \$1,400 Daily profits \$400 It is noted that the hotel was able to sell most of its rooms by offering several price levels thanks to this technique

Example 2

A tour operator sells 400 cabins on a cruise ship at two different prices:

P1= 5000 Euro

P2= 3500 Euro

(accessible to passengers booking at least three months before departure)

	Business A	Business B	Business C
Number of cabins sold to 5000 euro	80	248	192
Number of cabins sold to 3500 euro	280	40	132
Total sales volume	360	288	324
Filling rate	90 %	72%	81%

Sales figures	1380 Euro	1380 Euro	1422 Euro
Average unit selling price per cabin	3833 Euro	4792 Euro	4389 Euro

- We note that:

- Company A seeks to optimize the occupancy rate by selling the maximum number of cabins regardless of the price
- Company B seeks to optimize the average unit price by selling more cabins at 5000 Euro
- The company seeks the best balance between the occupancy rate and the turnover by practicing yield management

III- The customer's perception of yield management

The practices of yield management lead us to ask the following questions:

- How would a customer feel if they paid a different price from another customer for the same service
- How would the customer react to price fluctuations Price is a key factor for the customer in making a decision to purchase a service, generally, the customer accepts a price that they consider equal to or lower than the price they see as fair, so the problem of price fairness is the weak point of yield management, which leads the customer to compare the price perceived and the one considered as a reference The reference price can be:
 - The price that the customer paid last time
 - The price that the customer is used to paying
 - The price that others have paid
 - The price applied by competitors.

Price fairness depends on two forms of justice:

- Distributive justice -Procedural justice

1- Distributive justice

Distributive justice can be defined as "the feeling of the individual when he compares his advantages and contributions in an exchange relationship (Sabadie William, ISABELLE PRIM-ALLAZ, 2005, p. 4)

- the customer compares the price he faces with the price he considers to be his reference price
- the reference transaction can have several sources of reference:
 - expected price
 - price that others have paid There are two main forms of distributive justice:
 - internal equity
 - external equity

- Internal equity The customer evaluates his contribution and advantages For example:

- At time T Mr. x paid 600 euros to buy a ticket (reference price).
- At time T+1 Mr. x paid 700 euros to buy the same ticket and then he noticed that the quality of service is still the same. The customer will consider the transaction unfair.

- External equity

- the customer evaluates his contributions and benefits in relation to those of other customers with whom he compares himself, in other words, the customer compares his situation with others, therefore, the price paid by others becomes his reference price For example:

A traveler learns that the person sitting next to him on the same plane paid 20% less while he enjoys the same seat, meal,
- the customer will consider the transaction unfair

2- Procedural justice **Procedural justice can be defined** as "the procedures used by the organization to allocate the benefits it distributes" (John Thibaut, Laurens Walker, 1978).

Procedural justice refers to "the perception of fairness with regard to the rules and allocation procedures used to determine compensation" (Russell Cropanzanon, Jerald Greenberg, 1997).

Procedural justice is an essential element in the notion of fairness, the more the client perceives that the process is fair, the more tolerant he will be towards the consequences resulting from this process For example

Ip tracking :

Generally practiced by airlines, when the customer visits the flight site to book, the latter will memorize his IP address, once he disconnects and reconnects later on the same site, the latter will locate his IP address, it displays very high prices to the customer to give him the impression that the flight fills up quickly, so yield management is criticized by many customers for not having respected procedural justice Recommendations

For a very good practice of yield management, we suggest that owners of service establishments:

- implement personalized communication based on clear pricing to maintain customers
- train the company's staff (front office) on the effective use of software responsible for implementing yield management
- invest more in software responsible for implementing the practice of yield management
- respect the rules of fairness through a very good information policy and effective communication on the price lists applied
- offer advantageous services to the different to justify the price variations.

Conclusion :

We could say that the practice of yield management, also known as revenue management, is extremely beneficial for service businesses such as airlines, hotels, and car rental agencies.

By optimizing prices based on demand and supply, businesses can maximize their profits while ensuring optimal occupancy or fill rate. This strengthens their position in a market where competition is fierce among different players. However, for yield management to be truly effective, it must be applied strategically and precisely. A good understanding of market trends, an ability to analyze data in real time, and the use of advanced technological tools are essential to achieve the company's goals. Moreover, this practice must also take into account customer satisfaction, as too much volatile pricing or poor communication can harm customer loyalty. In short, when yield management is applied intelligently and prudently, it not only helps increase the company's revenues but also meets customer expectations, creating a win-win situation for all stakeholders.

Bibliography :

- 1- Barry C. Smith, John F. Leimkuhler and Ross M. Darrow . (1992) . Yield Management at American Airlines.(Interfaces , Vol.22 , N .1, P .8- 31
- 2- Yousfi Ilyas , Hammich Mohamed and Chakor Abdellatif .(2018) . Perception du Yield Management . Troisième congrès de l'Association Marocaine du Marketing . P.6
- 3- Imen zrelli . (2010) . les déterminants de l'orientation du yield management , une approche exploratoire . N . 207 , Revue française de gestion , p . 63 – 82
- 4- Isabell Frochot , Patrick Legohérel ,(2018) , marketing touristique , construire une strategie efficace , maison dunod , 4 edition , p.214
- 5- (www.coursehero.com , 30.11.2022. 19 :30)
- 6- Sheryl E. Kimes .(1989) . The Basics of Yield Management .the cornell hotel and restaurant administration quarterly . Vol . 30 , N . 3 , P.14 – 19

- 7- : Sébastien Beaud .(2015) . L’impact du yield management sur les clients dans le domaine du transport aérien , Université de Fribourg . Faculté de sciences économiques . p. 9
- 8- www.mews.com . 29 .11.2022 . 17 : 02
- 9- (www.manager-go.com . 29- 11-2022 . 17 : 32)
- 10- Nezha Fatima belaoud . (2021) . le yield management , une fonction émergente en Algérie , cas du secteur hôtelier . El bachaeer economic journal . Vol . 7 , N . 1 , P . 1086
- 11- ISABELLE PRIM-ALLAZ , WILLIAM SABADIE . (2005) . les apports de la théorie de la justice à la gestion des réclamations , Association Française du Marketing . V . 38 , P . 1 – 26
- 12- John Thibaut , Laurens Walker. (1978) . a theory of procedure , California law rivew , V. 66 , N.33 , P 541 – 566
- 13- Cropanzano, R. Greenberg, J. (1997) . Progress in Organizational Justice: Tunneling through the Maze. International Review of Industrial and Organizational Psychology, Vol. 12, p. 317-372.