# Yield management analysis flashcard

Yield management is an important form of price variation for revenue maximization, especially in airline and hotel businesses. When ‘ yield management’ is researched, mostly American Airlines is shown up due to the origin of yield management. The starting point for yield management was the deregulation of the US airline industry in the late 1970s. A new airlines company called People’s Express entered the market with low ticket prices. Major airlines, such as American and United, started to offer lower fares for a few seats to compete with People’s Express but they kept higher fares on the remainder seats.

In this way, they attracted People’s Express passengers who wish to pay less for tickets while still keeping their other higher-paying customers (Ingold, McMahon-Beattie, and Yeoman, 2000). As a result of this strategy, People’s Express started to lose their passengers. Eventually People’s Express founder and former CEO Donald Burr declared bankruptcy, “ We were a vibrant, profitable company from 1981 to 1985, and then we tipped right over into losing $50 millions a month. We were still the same company. What changed was American’s ability to do widespread yield management … There was nothing left to defend us” (Peterson, 2005).

Robert Crandall, former Chairman and CEO of American Airlines, famously said that “ yield management is the single most important technical development in transportation management since we entered the era of airline deregulation…” (Smith, Leimkuhler, and Darrow, 1992). Since then, yield management has become an inevitable method of airlines to preserve market share and profitability, and spread to other travel and transformation companies. A. Defining Yield and Yield Management

Before explaining yield management, it is important to understand the meaning of the term ‘ yield’. According to Wood (1985) yield can be defined as ” the quantity of good pieces resulting from a process expressed in proportion to the quantity of good pieces entering that process”. Yield is calculated by taking revenue realized and dividing it by revenue potential (Jones and Val, 1993). Therefore, it can be said that yield is a way of calculating the effectiveness of a firm to increase revenue.

Yield management has many different definitions. Optism (2002) defines yield management as ” an economic technique to calculate the best pricing policy for optimizing profits generated by the sale of a product or service, based on real-time modeling and forecasting of demand behavior.” Nagle and Holden (1995) define it as ” a discriminatory pricing procedure which involves setting different prices for different segments of the market so as to maximize revenue gained.”

It is also defined by Jaucey, Mitchell and Slamet (1995) as ” an integrated, continuous and systematic approach to maximizing revenue through the manipulation of a product’s price in response to forecasted patterns of demand”. However, the most common and widely accepted definition of yield management is given by Kimes (2002) as “ a method that can help a firm to sell the right inventory to the right customer at the right time and for the right price.” B. Required Conditions for Yield Management

Although yield management was first developed in the airline industry, it can be used in many different areas of the industry such as hotels, rental cars, restaurants, cruise lines, convention centers, stadiums, arenas, movie and

other theatres, internet service providers and golf courses (Smet, 2003). Companies applying yield management can be from different industries, but they must meet several conditions to apply.

Those conditions are as follows: 1. relatively fixed capacity 2. predictable demand 3. perishable inventory 4. appropriate cost and pricing structure 5. time-variable demand

Relatively Fixed Capacity

Yield management is appropriate for service firms that have constrained capacity because firms not constraint by capacity can change their inventory according to their demand. There are two kinds of capacity: physical and non-physical. The number of seats in a plain, the number of room in a hotel or the number of square meter in a golf area are examples of physical capacity. Non-physical capacity is usually based on time and connected to physical capacities, such as nights-hotel rooms, hours-restaurant table, and time-golf courses. Although capacity in these industries is mostly fixed, and it is difficult or costly to increase in the short term, some firms can change their capacity. For example, airline companies can increase the size of their plains and add more seats, or restaurants can add more tables or use outdoor seating during summer.

Predictable Demand

In order to maximize the revenue, managers of capacity-constrained firms should predict different forms of demand: the customers who make reservations and walk-in customers. It is important to find the most

profitable combination of customers. Information on the percentage of reservations and walk-ins, customers' desired time periods and likely service duration are required to forecast and manage this demand. To acquire this information, firm needs some effective reservation systems which are computerized or manual.

Perishable Inventory

One element that has been often underestimated by managers is time. Instead of considering the number of customers or average revenue per customer, firms should take time factor into account and calculate the revenue generated by time-based inventory unit. If an inventory unit cannot be occupied for a specific time period, it perishes. This kind of inventories cannot be stored and sold later. For example, hotels cannot store tonight's rooms for use by tomorrow night's customer. Other examples are empty airline seats or empty advertising space.

Appropriate Cost and Pricing Structure

A cost structure that indicates high fixed costs and low variable cost is required for firms using yield management. Variable costs and some fixed costs must be covered by enough revenue created by companies. The relatively low variable costs give capacity-constrained industries an opportunity for some pricing flexibility such as decreasing prices during low-demand times.

Time-Variable Demand

Customer demand usually differs depending on the time of year/ month/ week/ day. Some industries like hotels, airlines may have higher demand on weekends or in summer months. Time-related demand must be predicted by managers so that pricing and allocation decisions can be made effectively. And also, the service duration used by a customer has to be forecasted by the firms. For example, in restaurants if managers can correctly predict the length of lunch or dinner for a customer, they can organize reservations more properly and inform walk-in customers about estimated waiting times.

The Strategic Levers of Yield Management

The target of a successful yield management strategy is to acquire effective control of customer demand. To apply this strategy, businesses have two strategic levers: pricing and duration of customer use. Prices can be one price for the same service for all customers for all times (fixed) and different prices for different times or for different customer segments (variable). Duration can be predictable and unpredictable. While variable pricing to control demand is comprehensible process, duration control is more complex decision problem (Kimes and Chase, 1998).

Effectiveness of the strategic levers are dependent to the nature of the service business. While businesses which have known or fixed service durations and a variable price can use price incentives to manage demand, businesses which do not offer a specific duration for a service must focus on defining their services regarding duration (Enz and Withiam, 2001). Different industries, like airlines, movies, restaurants, hospitals, are subject to different combinations of duration and pricing for their service (see Figure 1;

Kimes and Chase, 1998). A classical tactic of yield management which uses price variation to shift demand for a service of a known duration always does not work well for all of those industries. Industries (hotels, airlines, car-rental firms, and cruise lines) traditionally connected to yield management can implement variable pricing for a product or a service that has a specified or predictable duration (Quadrant 2).

Movie theaters, convention centres, and sports stadiums usually charge a fixed price for a service of predictable duration (Quadrant 1). Restaurants, golf courses and most internet service providers generally charge a fixed price but face a relatively unpredictable duration of customer use (Quadrant 3). Many health care businesses charge variable prices depending on patient's Medicare or private pay. However, they do not know that how long patient uses the service (Quadrant 4). The lines between quadrants are not straight because there is no strictly defined separation in reality.

Therefore, an industry may have characteristics from more than one quadrant. Kimes and Chase (1998) state that yield management applications of industries in the quadrant 2 are generally successful, and they show reason as " predictable duration enables clear delineation of the service portfolio and variable pricing enables generating maximum revenue from each service offering within the portfolio" (Kimes and Chase, 1998).