Yield management: opportunities for private club managers

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Keywords
Yield, Operation management, Pricing, Capacity, Restaurants, Golf courses

Abstract
Yield management has been adopted by many hospitality organizations. An introduction to yield management concepts, resources and ideas for the design and implementation of price and capacity management tools is provided in the context of private club management. The use of contribution-based yield statistics to monitor the performance of price and capacity decisions in high variable cost operations is discussed, along with reservations policies, perceptions of fairness and the use of coupons to obscure differential price policy.

Introduction

Yield management is a broad term describing various methods for managing the relatively fixed capacity of many kinds of services more profitably. It has gained widespread acceptance in many hospitality industries (airlines, car rentals, cruise lines and hotels) and there is substantial evidence that it is effective in improving revenues. Yield management has primarily been used by for-profit hospitality companies; however, it can also be used in the non-profit sector to generate funds for capital improvements, debt repayment or decrease operating losses, (Meters and Vargas, 1999).

The body of research about yield management continues to grow in scope with increasingly sophisticated ways to improve business performance. New users of these techniques are faced with a bewildering pallet of ideas, terminology, and techniques that need to be adapted to the special needs of their workplace. The purpose of this paper is to provide an introduction to yield management for private club managers and others who are interested in trying these methods, but have yet to learn about them. It will identify opportunities for yield management in the private club sector and the knowledge resources necessary to understand and implement some of these ideas.

The economics of yield management

Unused tee-times, restaurant seating, hotel rooms or airline seats are wasted. Given a downward sloping demand curve (more people will buy if the price is reduced), a trade-off develops between the desire to obtain the highest prices and sell all available units of capacity (seats, tee-times, memberships, etc.).

Demand characteristics for certain types of services and members are different. As prices change, consumer demand may change very little (inelastic demand) or a great deal (elastic demand). Some members are price sensitive (elastic demand) while others are time sensitive (inelastic demand). Yield management techniques work on both elastic and inelastic demand (Hoke, 1992). For example, price sensitive members may respond strongly to small reductions in price with large increases in volume, whereas time sensitive members may be quite insensitive to price increases with no significant decrease in volume.

The manager's problem is to know which combination of prices, member type, demand and volume for the same product will optimize revenue. Yield management provides solutions to this problem using capacity management and pricing tools. Yield management "tools" can be computer software programs, but can also consist of heuristic or "rule of thumb" approaches (Lieberman, 1993). Regardless of the type of yield management tool used, available capacity is allocated to different groups of members defined by price or time sensitivity. Prices are based primarily on the demand level at various times and to a much lesser degree on the attributes of the product being sold.

Yield management measurement

Yield management strategies consist of charging different prices for essentially the same service and simultaneously managing the capacity available. The results obtained from different prices and changes in volume are tracked with a yield statistic (for example, REVPAR in hotels). Some kind of yield statistic is vital in order to measure the results of any yield management decisions.

Yield statistics (see Table I) are constructed with some type of rate efficiency

Emerald
International Journal of Contemporary Hospitality Management
14/3 [2002] 136–141

[ISSN 0959-6119]
[DOI 10.1108/09596110210424493]

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ratio (for example, the average check per customer) multiplied by some kind of capacity utilization ratio (for example, the percentage of seating capacity utilized). Total revenue can change due to the average price alone, capacity utilization alone, or through some combination of these.

Yield statistics are quick and easy ways to determine if your price and capacity decisions are working: improvement in the value of the yield statistic means your yield management strategy is improving revenue. Total revenue is simply the yield statistic multiplied by the service capacity of the facility.

When the variable costs are zero, revenue and contribution margin are the same. It is important that the yield statistic for products with significant variable costs (such as foodservice outlets) is based on contribution margins, not revenues. Barth (1998) has shown that yield statistics based on revenue (sales) can be misleading; however, yield statistics based on contribution margins (price minus variable cost per unit) always work correctly.

Most private clubs offer a number of services to their members and guests. Broadly, these services may include beverage service, dining, banquets, retail sales, equipment service and rental, locker room, sports facilities (golf, curling, racquet sports, etc.) and tournament/organized play. Each of these services has different characteristics; consequently, there is no single yield management methodology that can be used to optimize a club's full spectrum of operations. For instance, there is no single yield statistic that can be used for golf and foodservice. However, methods that have been developed for airlines, hotels and car rentals can be applied to each part of a club's operation to develop a comprehensive strategy.

Table I
Comparison of yield statistic expansion

Statistics	Rate efficiency ratio	×	Capacity utilization ratio
Revenue optimizing			
REVPAR (hotels)	Total revenue / No. of rooms sold	×	No. of rooms sold / No. of rooms available
	Average rate	×	Occupancy percentage
REVPATT[a] (golf)	Total revenue / No. of rooms sold	×	Tee-times sold / Tee-times available
	Average price	×	Capacity utilization
REVPASH[b] (restaurants)	Total hourly revenue / Customers served/hour	×	Customers served/hour / No. of seat hours available
	Average check/hour	×	Capacity utilization/hour
Earnings optimizing			
ROA (finance)	Net income / Total sales	×	Total sales / Assets
	Profitability	×	Asset turnover
CONPAC[c]	Sales variable cost / Covers served	×	Covers served / Maximum covers servable
	Av. margin per customer	×	Capacity utilization

Notes: [a] See Kimes (2000, pp. 120-7)
[b] Restated from Kimes (1999a, pp. 16-21)
[c] Barth (1998, pp. 61-8)

Pricing tools

Pricing tools are methods the manager can use to make revenue-enhancing decisions based on prices. Except for general price increases, pricing tools work by charging different prices for essentially the same service. In order to do that, managers must be able to segment their members into identifiable groups (membership classes) according to how much they are willing to pay. The simplest segmentation systems for purposes of yield management are price sensitivity and time sensitivity. Members who are price sensitive but not time sensitive are attracted by lower prices and adapt their schedules to obtain discounts. Members who are time sensitive but not price sensitive are willing to pay higher prices to access services whenever they want them. Members may mentally switch between these segments depending on the circumstances surrounding the purchase.

Purchase behavior is often used to identify which segment a consumer is part of at a particular time. For example, by offering discounts for certain times only, airlines attract passengers who are willing to adapt their schedule to obtain a lower price, or price-sensitive consumers who would otherwise not fly at all. By further restricting the availability of the discount to trips that bridge a weekend, they make the discounted fare less attractive to business travelers who prefer to be home when not working. Customers who choose full-fare flights are willing to pay more in order to fly when they want to. In private clubs, members identify themselves by the membership class they select.

The range of prices available to the yield manager is between the variable cost per unit up to the highest price at least one member is willing to pay. Operations that are ideally suited to yield management (see Kimes, 1989) have a cost structure with low variable costs. For example, in the case of tee-times sold on a pay-as-you-play basis there is no significant variable or "out-of-pocket cost" and the manager can offer very large discounts to attract players towards low-demand periods if need be. If an unused tee-time could be sold

for even $1, profits would increase. However, when products (i.e. restaurant meals) have significant out-of-pocket costs such as food and incremental labour, the manager's ability to discount during low volume periods is constrained by the variable or out-of-pocket costs that need to be recovered.

One of the yield manager's goals is to obtain the highest average price for the product or service that is being sold. There are several ways to increase average price. The simplest pricing tool is a general price increase. Everyone pays more for everything. Unfortunately, if general price increases are significant, customers may feel a general discontent that is expressed in many ways. Members may be lost to competitors, buy less, buy less often, or simply opt out. General price increases work well when there are no comparable services available at lower prices, switching costs are high and the increase is relatively modest.

In the private club context, the general price increase is a good way to maintain a break-even position from year to year. However, when extra funds need to be generated to cover debts, substantial operating losses, or capital improvement projects, more effective pricing tools are available.

Charging higher prices during high demand time periods can also increase the average price (demand-based pricing (Barrows, 1994)). Demand-based pricing says that when you are very busy and may have to turn customers away (for example, certain weekend dinners in the restaurant, Saturday night banquet bookings during the wedding season, etc.) managers should increase prices. Price-sensitive customers may balk and refuse to buy at the higher price, but time-sensitive customers who are willing to pay more will take their places. Conversely, when demand is low and there is unused capacity, managers can increase the number of members served by offering lower prices.

The happy hour is a classic example of differential pricing. Lower drink prices, two-for-ones, buy one get something free, etc. are all forms of differential pricing used to attract members to low volume periods and/or spend more. To be an effective pricing tool, members should pay the full price during busy times.

Yield managers can increase average price by charging some customers more than others at the same time. Nested pricing means that at any given time customers pay different prices for the same product. A widely known example is that airline passengers who sit next to each other often pay very different fares, depending on the time of booking (early or last minute), whether their itinerary spans a weekend away, or if they have frequent flyer points.

In private clubs, nested prices may be implemented through reciprocal agreements or guest privileges where additional revenue is obtained through a system of surcharges. In effect, some users will pay more than others at any given time.

Nested pricing schemes are not always apparent to the customer. For example, discount coupons can be selectively provided to price-sensitive members in order to build volume without eroding the full price paid by others. These "special offers" can be made part of a frequent user program, timely payment of club charges, etc. The important yield management aspect of coupons is not how they are distributed, but rather their ability to build volume during low volume periods without eroding full-price sales.

Differential and nested pricing tools can impact strongly on the members' perceptions of fairness (Kahneman *et al.*, 1986). Kahneman *et al.* (1986) group recommend framing prices as discounts from the full price, instead of charging premiums. There are also societal norms that govern what is fair and what is not (Withiam, 1986). For example, if discounts are given for early booking or frequent users, many people think that is fair. However, if higher prices are charged based on a member's ability to pay, many people think that is unfair.

Another common societal norm is that if you pay more you should get more. Airlines and hotels attempt to manage the issue of perceived fairness by imposing restrictions or "fences" on their fare structures (Hanks *et al.*, 1992). For example, heavily discounted "super saver" fares are not transferable or refundable, whereas flight changes or refunds are often available for full-fare passengers. Thus, the full-fare customer purchases both flexibility and transportation.

Many private clubs offer different classes of membership on a similar basis. Low cost memberships based on restricted access to golf or other services generate revenue from members who would otherwise not join. Similar to airlines, value and perceptions of fairness are maintained by applying restrictions. Members that want unrestricted access to golf pay higher fees. Members who want to save money are restricted to less desirable tee-times. Club managers may also permit occasional access to prime tee-times by lower membership classes when unused times are available by charging a fee. The airline equivalent would be the sale of an upgrade depending on availability.

In the case of pay-as-you-play golf, a nested price structure with fences may fit with accepted norms of fairness. For example, players who book far in advance get a lower rate, but must pay even if they cancel. Last minute players pay a higher rate, but are able to cancel and book another time without penalty.

Nested pricing is always linked to a capacity management tool. For example, in a pay-as-you-play environment, if everyone books their tee-times early at discounted rates, there will be no tee-times available for sale to last minute players at higher prices. Consequently, the manager's problem is to know:

- how many tee-times not to sell at the low prices such that no last-minute players are refused a tee-off time at the premium rates; and
- all tee-times are sold.

Similarly, on the basis of surcharges for lower class players who wish to book a prime tee-time, reciprocals or guests, the manager must know how many of these requests not to accept. In general, optimal capacity allocations for different price levels are solved using computers. Kimes (1989) and Weatherford and Bodily (1992) provide a review of these techniques for the technically minded.

While capacity management helps managers increase average rates by saving a certain amount of capacity for higher priced sales, it also serves members' interests. If all tee-times were available at discounted rates, they would sell out very quickly and the club would receive only discounted revenues. A nested price/capacity allocation scheme can ensure that a certain number of discounted tee-times are available for price-sensitive players who can adapt their schedules. The nested pricing scheme also ensures that a certain number of tee-times remain available for time-sensitive players who are willing to pay more.

Capacity management tools

Yield management is ideally suited to operations where demand is variable and capacity is relatively fixed. Clearly, an important part of managing capacity is knowledge of demand patterns. The precision of this knowledge as embodied in forecasts becomes most important when using computers for optimal combinations of price and capacity. However, for rule-of-thumb approaches to yield management, general knowledge of busy periods and customer segmentation is sufficient.

We have seen how pricing tools can shift demand from peak periods to slow periods, and that capacity must be allocated to different price points in order to use a nested pricing strategy. Aside from the capacity allocation tools that are used with a nested pricing scheme, managers have several options that can be used to manage capacity utilization.

Aircraft and hotel capacity is much more inflexible than it is in restaurants and golf courses because the duration of service is fixed (a night or a flight). In the case of restaurants, managers can increase the effective capacity by reducing the average duration of a customer visit (Kimes, 1999a, b). This does not automatically mean members must be harried or harassed to leave quickly! Plain good service such as the efficient taking of orders, timely preparation and service of food, check presentation and charge handling can substantially reduce the duration of the visit. Similarly, reducing the time between tee-times by even one minute can substantially increase the number of players per day (Kimes, 2000).

Reservations, the ability to sell in advance, are an important capacity management tool for airlines and hotels. It is especially useful for segmenting customers into price-sensitive and time-sensitive groups so that the revenue-optimizing price is obtained. Reservations also provide the yield manager with a count of the remaining capacity at any time up to the service delivery time. This information is very useful because if bookings are brisk, managers can use pricing tools to increase revenue, or conversely, if bookings are slower than usual, they may offer discounts to build volume.

Reservations also cause problems. No shows and late arrivals waste capacity during high demand periods that could otherwise be sold. Many golf courses and restaurants can counter this problem by charging late or no show fees to compensate for lost revenue. Overbooking (accepting more reservations on the basis that some will not show up) is another practice that attempts to reduce wasted capacity.

Other revenue optimization strategies

In addition to pricing and capacity management tools, food service managers can improve revenue by selling more to each customer (Quain *et al.*, 1999). Upselling the customer a larger portion or additional items like an appetizer, dessert or specialty coffee are well established practices in the

restaurant industry designed to increase the average check. Percentage sales increases of only 2 or 3 percent, when coupled with improved capacity utilization, can dramatically affect profits.

Bundling is another way to increase the average check. By skillful assembly of products into package deals, club managers can improve the marginal contribution, while simultaneously offering better value to the member. Adding high margin items to core products with lower margins is the easiest way to do that. Another way to improve revenue per member is to offer low cost add-ons such as a salad or soup for a reduced price.

Menu engineering (Kasavana and Smith, 1982) is a well-established way for food service outlets to improve their margins based on the popularity of individual menu items. While this methodology was developed prior to yield management, it encompasses similar strategies based on price, cost structure and demand.

Yield management resources for private club managers

Prior to proceeding with the formulation and implementation of a revenue management strategy, managers are advised to evaluate their market needs, organization and processes in order to quantify the benefits that could be obtained and enlist the appropriate technology (Cross, 1997).

Initiation, membership and user fees are an important part of the yield strategy for private clubs. The impact of pricing, market segmentation, elastic and inelastic demand for a private club in Florida is described by Hoke (1992) and is a real-life testimonial to what can be done with a very basic yield management approach.

Restaurants are beginning to adopt yield management strategies to optimize revenue in ways that club managers may find useful. Kimes (1999a) provides a study of the implementation of a yield management strategy in an actual restaurant that involves improvements in throughput, reservations and pricing tools.

A yield statistic such as CONPAC should be used to evaluate the performance of pricing and capacity tools. If managers wish to reduce the duration of the visit, they may wish to construct a yield statistic such as "CONPASH" that measures capacity in seat-hours. When pricing tools work well, they tend to increase both the average revenue per customer and the total number of customers served.

In situations where club members have strong objections to differential pricing, club managers may consider applying dining room/bar charges against minimums only during low volume periods (weekend lunches or weekday dinners). This may help increase total sales by shifting fixed demand (minimum food and beverage charges) to low volume periods and increasing the availability of seating for incremental sales during high volume periods.

Banquets present excellent opportunities for yield management. Banquets are booked substantially in advance and the total cost varies by both prices charged and the menu/services required. Non-member sales are often used as the basis for price discrimination. Booking times substantially in advance allow managers to hold off or accept booking decisions based on their knowledge of peak demand. For example, it would be better to refuse a wedding for 60 people at an average price of $100 per person if the probability of finding a larger party of 200 people at a rate of $80 per person was good. Provided the banquet manager has plenty of time in which to find the more lucrative business, the risk of denying the smaller party is reduced. Since banquet customers negotiate individually, and have different needs, nested pricing tools are the norm. In the case of weddings, customers who are price sensitive may be willing to accept alternate, low demand dates to save money. Potential conflicts between banquet bookings by members versus outside customers often require delicate handling.

Kimes (2000) has explored the effect of cart rentals, cadies, GPS systems, and tee-time intervals on duration of play for golfers, as well as a brief discussion of pricing tools. Many of these ideas can be extended to racquet sports as well.

Conclusions

Like many organizations over the past decade, private clubs have witnessed their share of financial and operating difficulties as they strive to serve their members better. In some cases, yield management can mean the difference between survival and closure, but more often it is a way for club managers to do more for their members with the facilities already in place.

It has been argued that yield management can serve the interests of both time-sensitive and price-sensitive members by allocating capacity in a way that provides savings to those that need them, and prime time capacity to those that are willing to pay for it.

It can be used to generate revenue if revenue is needed, or to increase utilization of facilities that are underutilized, or both.

The resources identified here are sufficient for most club managers to develop and implement a yield management strategy. Yield management strategies can be intuitive, based on simple economics, or very sophisticated using computers to optimally determine price and capacity allocations.

Research has adapted the yield management tools developed by the airline industry to many other kinds of enterprise. Research is needed to provide club managers with pricing and capacity allocation tools that are adapted specifically for private club use. Areas that may require very different approaches to revenue optimization will include different classes of memberships, including seasonal memberships, initiation fees and membership reward programs.

Airlines, hotels, restaurants and car rental industries do not deal with the issues of non-profit organizations and membership control. Research is also needed to determine how acceptable yield management methods are to the directors of the club, as well as the membership at large. Perhaps an analysis of the compatibility of yield management methods with club boards should be among the first topics to be addressed.

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