Strategic Pricing through Revenue Management

Sheryl E. Kimes

Revenue management (RM) has been practiced in the airline (Smith, Leimkuhler,& Darrow, 1992),hotel (Hanks, Noland, & Cross, 1992),and car rental industries (Carroll & Grimes, 1995; Geraghty & Johnson, 1997) for over 15 years, and has more recently attracted attention in other industries, including broadcasting, golf (Kimes, 2000), health care (Born et al., 2004), and restaurants (Kimes, Chase, Choi, Ngonzi, & Lee, 1998). RM is applicable to any business that has a relatively fixed capacity of perishable inventory (i.e., seats, rooms, tee times), that inventories demand (either through reservations or wait lists), that has a high fixed cost and low variable costs, and that has varying customer price sensitivity. Industries using RM typically report revenue increases of 2% to 5% (Hanks et al., 1992; Smith et al, 1992).

The ability to effectively implement RM strategies in different industries is subject to the various combinations of duration control and variable pricing that exist within each industry (Kimes & Chase, 1998). Exhibit 34.1 illustrates the various combinations of price and duration and specifies the type of industries that correspond to each combination. The most effective applications of RM are generally found in industries in which both duration and price can be managed (see Quadrant 2). Consequently, it is not surprising that industries traditionally associated with RM (e.g., airlines, cruise lines, hotels, and rental car firms) are those that are able to apply variable pricing for a product or service that has a specified or predictable duration. On the other hand, some businesses (e.g., arenas, convention centers, movie theaters, and performing arts centers) charge a fixed price for a product of predictable duration (Quadrant 1), while still others (e.g., golf courses and restaurants) charge the same price for all customers purchasing a particular product or service but face a relatively unpredictable duration of customer use (Quadrant 3). Finally, a few industries, such as health care, charge variable prices (e.g., Medicare versus private pay) but do not know the duration of customer use, even though some may try to control that duration (Quadrant 4). The lines dividing the quadrants are broken because in reality no fixed demarcation point exists between quadrants; thus, an industry may have attributes from more than one quadrant.

Exhibit 34.1 Typical Pricing and Duration Positioning of Selected Service Industries

	V	Pricing	Many
Duration	Controlled	Quadrant 1	Quadrant 2
		Convention centersMoviesSpasStadiums/arenas	AirlinesCruise linesHotelsRental cars
	Uncontrolled	Quadrant 3 • Golf courses • Restaurants	Quadrant 4 Continuing care Hospitals

As previously discussed, companies using RM can deploy two strategic levers: price and duration control (Kimes & Chase, 1998). Pricing can be used in two ways: to determine the optimal prices and to determine who should pay which price (typically done through the development of appropriate rate fences). Duration can be controlled by better managing customer arrivals (i.e., overbooking and wait list management) or by better managing duration (i.e., length of usage controls). Duration control practices can be internal (not involving customers, for example, streamlining service delivery processes) or external (involving customers, for example, imposing length of usage controls).

The focus of this chapter is on the strategic role of price in the hotel industry. RM pricing is based on two pricing constructs: price discrimination and demand-based pricing. The basic premise behind price discrimination is that multiple prices can lead to increased revenue. A hotel that only charges one rate to all customers is not maximizing its revenue because some of its customers are probably willing to pay a higher price for the room (but are quite content to pay the lower price), while other potential customers are either unable or unwilling to pay the one price offered. For example, consider a 150-room hotel that charges all customers \$100 per night and finds that it can sell 100 rooms at that rate (and generating $100 \times $100 = $10,000$ per night). Some of these 100 customers maybe willing to pay a higher rate (let's say \$125). If the hotel charged two prices (\$125 and \$100), it would make $30 \times $125 + 70 \times $100 = $10,750$ instead of \$10,000. And, if they offered a discounted rate of \$75 they might be able to attract additional customers (let's say 30) and make $30 \times $125 + 70 \times $100 + 30 \times $75 = $13,000/night—an increase of 30% over the one-price scenario. Clearly such a revenue increase is desirable, but how can a hotel go about achieving such a result?$

In order to successfully use price as a strategic weapon, hotels must address two questions: What prices do we charge? How do we determine which customers or market segments should be offered those prices? In addition, hotels must study and understand both customer and competitive reaction to their use of revenue-management pricing. In this chapter, I will address these questions through a review of the relevant literature, current practice, and through the use of interviews with select senior revenue managers.

What Should the Prices Be?

Economists would suggest determining the price elasticity of each market segment and then setting the price accordingly (Phillips, 1983; Pigou, 1920). In theory, this would work (and is the subject of much research in the hotel and airline industries [Elmaghraby & Keskinocak, 2003; Gallego & van Ryzin, 1994]) but in practice is not frequently used because of the difficulties in determining overall customer price elasticity, much less the price elasticity of each market segment.

What makes RM pricing different is the presence of excess (or unconstrained demand). When unconstrained demand exists, a hotel can choose the customers willing to pay the most. Because of this, hotels that are successful with RM generally show a strong positive correlation between occupancy percentage and average daily rate (ADR) (Canina & Enz, 2006). This is the opposite of what would be expected from traditional economic theory, which generally postulates an inverse relationship between quantity sold (in this case, rooms) and price (in this case, ADR).

Should hotels charge different rates on different days?

Klaus Kohlmayr, director of IDeaS Advantage

Dynamic pricing is a necessity in today's environment as rates are accessible directly by the clients and across a wider variety of distribution channels than ever before. While traditional yield management was achieved through length of stay restrictions and similar tactics, the most innovative hotel companies are moving toward a revenue optimization approach based around the optimal price point for every day in the future, per channel and segment. Technology will help further drive our approaches to dynamic pricing, with pricing by customer (segment of one), becoming a reality in the not too distant future. (K. Kohlmayr, personal communication)

In practice, most hotel prices are set either with competitive pricing or, in some cases, through negotiation. Hotels generally obtain competitive information from three sources: phone calls to other hotels ("shopping"), third-party data providers (i.e., TRAVELCLICK and Smith Travel Research [STR]), and through various distribution channels (i.e., Expedia and Travelocity).

This information is useful for adjusting overall price levels but does not really provide detailed competitive pricing information by market segment. For example, when hotels call other hotels to check on prices, they get information on their lowest available rate for a particular night or information on the price for certain room types; although with sufficient time, they may be able to obtain information on other hotel prices. Similarly, with third-party sites, such as TRAVELCLICK or STR, hotels can obtain aggregate data on their competitors but cannot get information on price performance by market segment.

Another approach is to adopt a marketing approach and study the characteristics of various market segments, to design a product bundle that appeals to that market segment and to price it accordingly. For example, a hotel may find that business travelers from a particular country prefer to have breakfast included, have free Internet access, and have a turndown service each night. They may also find that these guests are not particularly price sensitive. If they bundle breakfast, Internet access, and turndown service into the price, they may be able to command a higher price than that charged other market segments. Similarly, other market segments may be very price sensitive and be willing to make nonrefundable reservations well in advance in exchange for a 30% reduction in room rate. This sort of approach is quite different than has been traditionally associated with RM but has proven to be quite successful.

Another issue to consider is how the prices should be presented to customers. Hotels using RM usually develop rate and length of stay controls for each arrival day for the near future, and frequently a rate that may be available on one day of the guest's stay may not be available on another day of the stay. For example, on the first day of the stay, a \$120 rate may be available, but on the second day, the lowest rate available might be \$150. The question becomes one of which rate(s) to charge. Should the hotel charge different rates for each day and risk possible customer confusion, or should it charge an ADR for the two days and risk potential customer anger? Recently, Expedia and Marriott have started offering different room rates for each day of a guest's stay so that they are able to offer the best available rate (Carvell & Quan, 2005; Rohlfs & Kimes, 2006). Research (Rohlfs & Kimes, 2006) has found that customers consider best available rate pricing (in which the best available rate is offered each day

of the stay) to be more acceptable than traditional pricing (in which an average price is offered each day).

Who Gets Which Price?

If hotels decide to charge multiple prices, they must differentiate those prices so that customers feel like they are purchasing different products. For example, consider the example hotel that charges three rates (\$75, \$100, and \$125). Customers paying the \$125 rate may receive additional services, such as complimentary breakfast, more desirable rooms, and late checkout while those paying the discounted \$75 rate may be required to make their reservations well in advance and receive less desirable rooms. The conditions associated with different rate categories (or prices) are referred to as rate fences. Essentially, a rate fence is the reason why people pay different prices.

What is the best way to segment customers?

Jeannette Ho, vice president of marketing, Raffles International Limited

Traditional ways of segmenting customers via their transactional characteristics, such as booking lead time, channel of reservation, and type of promotion are insufficient. Both behavioral characteristics (such as motive for travel, products sought, spending pattern, and degree of autonomy) and emotional characteristics (such as self-image, conspicuous consumer or reluctant traveler, impulse or planned) need to be incorporated into revenue management considerations. The art of implementation is not to let the customers feel that your pricing and inventory control practices are unfair and meant primarily to increase the top and bottom line of the company. Intelligent and meaningful rate fences have to be used to allow customers to self-segment so that they retain a feeling of choice. (J. Ho, personal communication)

Rate fences take five basic forms: physical, controlled availability, customer characteristics, transaction characteristics, and product line (Dolan & Simon, 1996; Kimes & Wirtz, 2003). Regardless of the rate fence used, it must be clear to both customers and employees, must be easy to enforce, and must make sense to customers.

Physical

Physical rate fences include such things as room type; floor level; view; amenities, such as comfort of the bed or pillow; additional products in the room, such as Internet access or fax machines; breakfast; or newspapers. Essentially, the customer is given additional products or services, which

hopefully do not cost the hotel too much but are things that the customer values, in exchange for the higher room rate. If a guest asks why he or she is paying a higher rate than someone else, the hotel can point out the additional "things" that the guest has received in exchange for the higher rate. If the hotel has done its marketing research well, the additional things it bundles with the room will be things that customers value but those that have a low cost to the hotel. Physical rate fences may be easier to explain to customers, but are not particularly useful during extremely high demand rates when all rooms are sold at the highest (rack) rate. Customers who had received enhanced products or services for their higher price in the past may be upset if they are assigned an "inferior" room.

Controlled Availability

Hotels can also control the availability of certain rates to particular market segments or distribution channels. For example, a lower rate may only be available to customers from certain areas or might only be available for bookings made on the Internet. Controlled availability rate fences allow hotels to better segment their markets so that they are only providing lower rates to specific groups of customers.

Customer Characteristics

Hotels can also use customer characteristics, such as age, group membership, or employee status, to help determine which rates customers should pay. For example, most hotels offer lower rates to older people or to employees of certain organizations. In addition, many hotels offer lower rates to employees of nonprofit organizations or government agencies or to members of their customer loyalty programs. Again, the reason for these rate fences is to help justify why people are paying different rates. For example, if a guest complains that he or she is paying a higher rate than someone else, the front desk clerk can explain that the other guest received a senior citizen discount or was an employee of a company that had a special contract with the hotel. The implication is that the complaining guest could receive these lower prices if he or she exhibited the required customer characteristics.

Transaction Characteristics

Common transaction fences include purchase restrictions, quantity discount pricing, and differential pricing by distribution channel. For example, most airlines and some hotels offer lower prices to customers who make their reservation far in advance and/or who agree to substantial change penalties. Or, many hotels offer lower rates to corporations or tour operators who provide them with a

certain number of room nights per year. Still, other hotels and airlines offer lower rates to customers who make their reservations online.

Product Line

Another possible rate fence is that of a product line rate fence. By differentiating their services and products by the level of amenities or service, companies can appeal to different market segments. Hotels frequently use this when they distinguish between their concierge floor (top), their deluxe rooms (middle), and their run-of-house rooms (low). Also, some hotel companies that operate multiple brands pursue a similar policy. For example, Marriott offers high-end properties (Renaissance and Marriott), midlevel (Residence Inn), and lower-level (Fairfield Inn).

What are some of the more innovative rate fences that you have seen? Did they work?

Marco Benvenuti, executive director of enterprise strategy, Wynn Hotels

In the gaming industry, the most innovative rate fence is charging variable rates to repeat casino customers. The new frontier of RM is to take into account the gaming value of each guest and charge a "personalized" rate accordingly. This can be easily done with the introduction of loyalty (points) cards, which track every single aspect of the gaming activity of each customer.

They work very well. The personalized price achieves two goals: It keeps the rate opaque (so there is no violation of best rate guarantee), and "incentivizes" players to become loyal to a specific casino or casino company. In other words, players don't get rewarded if they are brand promiscuous. From a pure revenue standpoint, the variable rate strategy helps the hotel to accept the most profitable guests (profitability being gaming and hotel revenue combined) at any time. (M. Benvenuti, personal communication)

Understanding Customer Reaction to Pricing

Although better pricing decisions can lead to increased revenue, hotels must also consider the impact of pricing on customer satisfaction. Customer satisfaction with pricing is affected by the perceived fairness of those prices (Bolton, Warlop, & Alba, 2003; Choi & Mattila 2005; Kahneman, Knetsch, & Thaler, 1986a, 1986b; Xia, Monroe, & Cox, 2004), notions of procedural and distributive justice (Smith, Bolton, & Wagner, 1999; Sparks & McColl-Kennedy, 2001; Tax, Brown, & Chandrashekaran, 1998), familiarity with the pricing practice (Kahneman et al., 1986a, 1986b; Wirtz &

Kimes, 2007), the relative advantage received from the pricing practice (Wirtz & Kimes, 2007; Xia et al., 2004), and the framing of the prices (Kimes & Wirtz, 2003; Wirtz & Kimes, 2007).

Perceived Fairness

Research has shown that when customers believe that a company is behaving in an unfair fashion that they are unlikely to patronize that firm in the future (Kahneman et al., 1986a, 1986b). This can be demonstrated in a number of situations, including customer reaction to high prices after a natural disaster or high room rates during an important sporting event (such as the Olympics or World Cup).

Perceived fairness is strongly affected by the reference price and the reference transaction (Kahneman et al., 1986a, 1986b; Thaler, 1985). Reference price could be rack rate, the regular rate paid, the price paid the last time, or the price a friend paid. The reference transaction could be "calling the hotel directly is always cheaper" or that the prices on the hotel's Web site should always be cheaper than other Internet prices. When hotels use RM, they often alter the reference price and reference transaction, and if they do not carefully plan how they are going to present their pricing practices to customers, they may run the risk of customer dissatisfaction.

The principle of dual entitlement (Kahneman et al., 1986a) states that customers believe that they are entitled to a reasonable price and that companies are entitled to a reasonable profit. When this relationship becomes unbalanced in favor of the company, perceptions of unfairness may occur. Based on their research on the principle of dual entitlement, Kahneman et al. (1986a, 1986b) found that (1) price increases are seen as acceptable when costs increase, (2) price increases are seen as unacceptable if costs have not increased, and (3) maintaining a price increase is acceptable even if costs go back to their original, lower levels.

There are basically three ways to raise prices without upsetting customers: raise the reference price, obscure the reference price, and attach restrictions or benefits with different prices (Kahneman et al., 1986a, 1986b):

• Raise the reference price: If the reference price (for hotels, this would be rack rate) is raised, other prices will be seen as relatively low compared to the reference price. For example, airlines frequently use this practice when they offer "super-saver" fares, which offer a substantial discount off of their full fare. Since less than 5% of airline passengers actually pay full fare, the discount seems a lot better than it actually is. Similarly, many

- hotels post their rack rates in their guest rooms, and customers often use these rates to evaluate the price that they paid for the room.
- Obscure the reference price: Hotels with excess inventory that they would like to sell at a lower price may be concerned that an extremely low price could send the wrong signal to current and potential guests. If a hotel can package the lower-priced hotel room with some other products (such as airline fare or rental car), it would effectively obscure the reference price since customers will not know how much the room actually costs. Tour operators and more recently, Expedia and Travelocity, have been very successful in offering packages and allowing hotels to distribute their inventory while obscuring the actual room rate.
- Attach restrictions or benefits with different prices: If hotels include certain benefits (such as a better room or free Internet access) with higher rates and attach restrictions (such as time of booking or change penalties) to lower rates, they can effectively differentiate not only the price but also the hotel room. The key factor to remember is that the benefits have to be things that guests value (and don't cost the hotel very much) and that the restrictions must seem reasonable to the guest. Customers believe that they are entitled to a reasonable price but also that companies are entitled to a reasonable profit. If the balance of customer and company value changes (as can happen when benefits and restrictions are used), perceptions of fairness may occur.

Procedural and Distributive Justice

Customers also evaluate the fairness of a policy (procedural justice) and the fairness of the outcome of that pricing policy (distributive justice) (Smith et al., 1999; Sparks & McColl-Kennedy, 2001; Tax et al., 1998). It is possible that a customer could consider a policy to be fair (procedural justice) but the outcome resulting from its implementation to be unfair (distributive justice)—and vice versa. For example, customers may feel that a hotel's Internet pricing policies are fair but that it is unfair that some people pay more than others.

Familiarity

Perceived fairness is affected by community norms, and perceived fairness of a pricing practice is judged relative to these community norms (i.e., a reference price provides a basis for fairness judgments because it is normal, not necessarily because it is just [Kahneman et al, 1986a, 1986b]). This

means that reference prices are not static but are continually adapted with market conditions (Wirtz & Kimes, 2007).

In an RM context, there is evidence to suggest that customers are shifting their fairness perceptions to community norms. For example, Kimes (1994) showed that RM pricing practices were considered more acceptable for airlines than for hotels in 1994. Interestingly, in a follow-up study 8 years later, Kimes and Noone (2002) found that there were no longer significant differences between the acceptability of these same practices in both industries. They concluded that this was due to the increased prevalence of RM in the hotel industry. U.S. golfers and diners are also more accepting of RM practices and find them relatively fair as RM pricing practices are increasingly being used in both golf courses and restaurants (Kimes & Wirtz, 2002, 2003). As a market becomes more familiar with RM practices, the unfairness perceptions of those RM practices may decline over time (Wirtz & Kimes, 2007).

Are Fairness Perceptions of Revenue Management Practices Shifting?

Dave Roberts, senior vice president of global revenue management, Marriott International

I believe perceptions of fairness are changing and that RM practices are generally more accepted by the consumer. This is partly due to the growth of the discipline into more industries, so that a given consumer is more likely to be exposed to it. I think this is also partly due to increasing transparency of pricing, which makes it quite easy to compare alternatives. There are still occasions where some consumers feel that the practices are "unfair" (some of which I hear about directly), such as peak season at a desirable resort or tickets to a high demand event. This will probably always be the case to some extent, though I believe that more and more people perceive these practices as "fair." (D. Roberts, personal communication)

Relative Advantage

Xia et al. (2004) suggest that perceived price differences can lead to perceptions of advantaged inequality (i.e., the consumer pays less than the reference price or another consumer) or disadvantaged inequality (i.e., the consumer pays more). Every RM pricing practice can be seen from two perspectives—one from the person paying the higher price (e.g., a nonstudent who pays a full price and cannot take advantage of a special rate for students) and the other from the person who can take advantage of a lower price through the same fencing mechanism (e.g., a student who pays the discounted student rate).

When there is a wide variation in the prices charged (as is the case with hotels), customers are likely to compare the prices paid to the prices paid by other customers (Bolton et al, 2003; Chen, Monroe, & Lou, 1998; Martins & Monroe, 1994), and customers who receive a lower price may be seen as receiving an unfair advantage (Adams, 1963). Wirtz and Kimes (2007) found that customers who are familiar with an RM pricing practice do not consider relative advantage when assessing the perceived fairness of that practice.

Framing

Price differences can either be presented as a premium or discount to regular prices. For example, a restaurant may decide to charge higher prices for weekend dinners. They can either present the higher price as a premium over regular menu prices or they can position the regular menu price as a discount from the higher weekend prices.

Prospect theory holds that price differences framed as a customer gain (i.e., discounts) as fairer than those framed as a customer loss (i.e., premiums or surcharges), even if the situations are economically equivalent (Chen et al., 1998; Kahneman & Tversky, 1979; Thaler, 1985). RM research has shown that customers view prices presented as a discount as fairer than those presented as a surcharge (Kimes & Wirtz, 2002, 2003; Wirtz & Kimes, 2007).

Determining When and Where to Offer Each Price

RM is all about who to say yes to and who to say no to. During high demand periods, a hotel may turn down lower-rated requests in order to save space for people willing to pay a higher rate.

During low demand periods, a hotel will probably accept all rate requests. Related to the yes or no decision are the rates to charge in different distribution channels and the opaqueness of the room rates.

Distribution Channels

Hotels use a variety of distribution channels for selling their rooms. It is essential that the room rates offered in different channels are the same. This will require that hotels determine how much to charge different distribution channels so that the price that the customer sees is the same as the price seen on the hotel's Web site. For example, if an Internet intermediary has a 25% transaction fee and the hotel's rate is \$125, it should offer that Internet intermediary a rate of \$100. In this way, the customer will see a rate of \$125 when consulting the channel. Some hotel chains (noticeably Intercontinental

Hotel Group and Marriott) have instituted lowest rate guarantees in an attempt to reassure customers that the hotel Web site always offers the best rate available.

Opaqueness

Bundling a hotel room with other products (such as airline seats or rental cars) allows a hotel to obscure its reference price. For example, rather than explicitly offering rooms for \$150 per night, during low-demand periods, a hotel could give a tour operator or Internet intermediary (i.e., Expedia or Travelocity) a discounted rate that would be packaged with a flight and a rental car. The hotel would be able to sell its rooms, but its room rate would not be apparent to the customer. In this way, hotels can offer lower prices to selected market segments without advertising the fact that it is offering extremely low prices.

What can hotels do to obscure room rates?

Hari Nair, vice president of market management, Expedia, Inc.

There are several options available for the hotel. Many hotels have the ability to extend "package rates," where a rate is bundled with an airline or car rental. This makes the rates opaque in nature, without compromising on the integrity of the brand. Another way of obscuring rates and protecting them is by adding value adds to an already existing rate structure (for instance, breakfast, free parking, high-speed Internet, etc.). Value adds are very beneficial because they cost the hotel very little but have a very high "perceived value" in the minds of the customer. Participation in opaque sites (e.g., Priceline, Hotwire) is another way to test the rates for a specific season and see if they "stick." But since the hotel name is not shared with the customer until the end of purchase, it serves the purpose. (H. Nair, personal communication)

Using Price Strategically

Enz, Canina, and Lomanno (2004) have shown that hotels that have an average room rate lower than their competitive set achieve lower revenue per available room (RevPAR) than their competition. This study, based on STR data from 10,000 hotels over a 3-year period, provides compelling evidence that lower average room rates do not lead to higher revenue performance.

Although they argue against aggregate discounting (having a lower average rate), they do not discuss specific pricing practices. An average room rate is just that, an average, and is an average of multiple rates. The key question for hotels is to determine what that mix of prices should be so that

their average room rate stays at or above that of their competitive set. Discounted rates can be offered to specific market segments (and conversely, premium rates to other segments) while still maintaining average rate parity.

Conclusion

If a hotel competes solely on price, it will not succeed since other hotels will quickly undercut the price or will offer additional value for the same price. In order to build a sustainable competitive advantage, hotels must use price as a strategic weapon, not a tactical tool. By deciding the prices to be charged to specific market segments and by concentrating on delivering superior value, hotels will achieve long-term and sustainable revenue gains.

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