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Abstract

To maximize golf-course revenue, operators should think of the course's tee times as finite perishable commodities and golfers as representing highly variable (yet movable) demand.

Keywords

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Revenue Management on the Links

Applying Yield Management to the Golf-course Industry

by Sheryl E. Kimes

To maximize golf-course revenue, operators should think of the course's tee times as finite perishable commodities and golfers as representing highly variable (yet movable) demand.

Research in revenue management has previously addressed the theoretical and practical problems facing airlines and hotels, among other industries, but has given little consideration to the golf-course industry.¹ The golf-course business is similar enough to hotel and airline operations that golf courses should be able to apply revenue-management principles. Indeed, many golf courses use various

¹ For a review of revenue-management literature, see: Sheryl E. Kimes, "Yield Management: A Tool for Capacity-constrained Service Firms," *Journal of Operations Management*, Vol. 8, No. 4 (1989), pp. 348-363; or Lawrence R. Weatherford and Samuel E. Bodily, "A Taxonomy and Research Overview of Perishable-asset Revenue Management: Yield Management, Overbooking, and Pricing," *Operations Research*, Vol. 40, No. 5 (1992), pp. 831-844.

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revenue-management-type practices, but the application has so far been mostly tactical. A broader theory of revenue management would permit golf-course operators to gain the benefits of strategic revenue management that they currently lack.

The objective of this paper is to develop the framework for such a theory. I discuss the necessary conditions for revenue management, the strategic levers available for revenue management and how they have been applied in traditional revenue-management settings, and how those levers, along with some tactical tools, can be applied to golf courses. It is not the purpose of this paper to propose a specific action plan.

Defining Revenue Management

Revenue management has been described as the application of information systems and pricing strategies to allocate the right capacity to the right customer at the right place at the right time.² In practice, revenue management most commonly has meant setting prices according to predicted demand levels so that price-sensitive customers who are willing to purchase at off-peak times can do so at favorable prices, while price-insensitive customers who want to purchase at peak times will also be able to do so. The application of revenue management has been most effective when it is applied to operations that have the following characteristics: relatively fixed capacity, predictable demand, perishable inventory, appropriate cost and pricing structure, and demand that is variable and uncertain.³ Those at-

tributes are generally found in some form or another in the golf-course industry.

Relatively fixed capacity. A golf course's capacity can be measured by its size, number of holes, and hours of operation. Most golf-course operators' approaches to optimizing revenue primarily involve filling the tee times to capacity and turning parties as quickly as possible, but that effort can be limited by the course, the customers' capabilities, or the available technology (e.g., too few golf carts, inability to track the positions of the playing parties).

Tee-time capacity is generally fixed over the short term, although golf courses have some flexibility to add an additional player to a party if necessary. Most golf courses have a fixed number of holes, but can vary the number (9 holes or 18 holes) and sequence in which they are played. In addition, some golf courses can increase their capacity during the summer because of more daylight hours.

Predictable demand. Setting aside putting and driving-range activities as a separate business, golf-course demand consists of customers who make reservations and those customers who walk in. Both forms of demand can be managed, but different strategies are required. In sum, customers who make reservations and those who walk in constitute an inventory from which managers can select the most profitable mix of customers. To forecast this demand and manage the revenue it generates, a golf-course operator needs to compile information on the percentage of reservations and walk-ins, customers' desired playing times, and likely round duration. Tracking customer-arrival patterns and playing times requires an effective computerized or manual reservation system.

Perishable inventory. One might think of a golf course's inven-

tory as its supply of carts and equipment, but golf-course inventory should be thought of as time—or, in this case, the time during which a hole is available. If the hole is not occupied for a period of time, that part of the golf-course inventory perishes without generating any revenue for the operator. Such time-based perishability is the key to a strategic framework for golf-course revenue management, and it is the element I believe has been missing in most other approaches. Instead of measuring costs or revenue for a given daypart, golf-course operators should measure revenue per available tee time (RevPATT). This measure captures the time factor involved in playing golf.

Appropriate cost and pricing structure. Like hotels, golf courses have a cost structure that features high fixed costs and fairly low variable costs. Like hotels, golf courses must generate sufficient revenue to cover variable costs and offset at least some fixed costs. Nevertheless, golf courses' relatively low variable costs allow for some pricing flexibility and give operators the option of reducing prices during low-demand times.

Time-variable demand. Golfers' demand for tee times is highly variable. For instance, player demand may be highest on weekends, during summer months, or at particular times of the day. Golf-course operators must be able to forecast that time-related demand so that they can make effective pricing and tee-time-allocation decisions to manage the shoulder periods around high-demand periods.

A special factor for golf-course operators is that they have to reckon with the length of time a party takes to play. To a degree this is analogous to hotels' having to forecast the number of customers who will choose to stay an additional night without a reservation, with the dif-

² Barry C. Smith, John F. Leimkuhler, and Ross M. Darrow, "Yield Management at American Airlines," *Interfaces*, Vol. 22, No. 1 (1992), pp. 8–31.

³ Kimes, pp. 348–363; and Robert G. Cross, *Revenue Management* (New York: Broadway Books, 1997). See also: Robert G. Cross, "Launching the Revenue Rocket: How Revenue Management Can Work for Your Business," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 38, No. 2 (April 1997), pp. 32–43.

Exhibit 1 Methods of managing duration

Reduce the uncertainty of arrival	Internal measures	<ul style="list-style-type: none"> • Improve forecasting • Use overbooking
	External measures	<ul style="list-style-type: none"> • Require guaranteed reservations • Reconfirm reservations by phone • Enforce a no-show fee • Charge a fixed fee for parties' reservations • Offer service guarantees
Redefine the concept of "duration"	Make it event-based Make it time-based	
Reduce the uncertainty of duration	Internal measures	<ul style="list-style-type: none"> • Flexible course design • Employ technology (e.g., GPS)
	External measures	<ul style="list-style-type: none"> • Make equipment available (e.g., require golf carts or reduce the rental fee during busy times) • Employ appropriate technology • Use course marshals, caddies • Post golfers' playing times
Reduce the tee-time interval	<i>Shortening the tee-time interval will not offend departing customers and should please customers who are waiting to play.</i>	

ference being that the hotel still is selling an integral room-night, compared to the sometimes-unpredictable period that golfers will take to play a round. A more apt comparison may be restaurant operators who must deal with diners who linger over after-dinner drinks or dessert, thereby tying up a table for an unusually long time. If golf-course managers (like good restaurant managers) can accurately predict round duration, they can make better reservation decisions and give better estimates of waiting times for walk-in customers.

Managing Demand: Strategic Levers

Golf courses appear to possess the conditions appropriate for revenue management, but we see little evidence of golf-course managers' using a strategic approach for applying the demand-management mechanisms at hand. A successful revenue-management strategy is predicated on effective control of customer

demand. We have alluded to the two strategic levers that golf-course managers have at hand to manage demand and, thus, revenue. Those are duration management and demand-based pricing.⁴

Duration management. Golf-course operators typically face an unpredictable duration of customer use, which inhibits their ability to manage revenue. To allow for better revenue-management opportunities, golf-course managers must increase control over the length of time customers take to play a round. To do this, they can reduce the uncertainty of arrival, refine the definition of duration, reduce the uncertainty of duration, or reduce the tee-time interval (see Exhibit 1).

Redefining "duration." A round of golf's duration should be measured by the number of hours

⁴ As explained further in: Sheryl E. Kimes and Richard B. Chase, "The Strategic Levers of Yield Management," *Journal of Service Research*, Vol. 1, No. 2 (November 1998), pp. 156-166.

that the player(s) is actually on the course. Golf-course operators, therefore, must know how long a typical party will take to play for a given day of week and time of day during a given season. When "duration" is defined simply as "a round of golf" rather than as the time it takes to play that round, the operator must still be able to forecast round length (elapsed time) to schedule other golfers. In other words, no matter what definition of "duration" or "round" is used, selling a round of golf essentially becomes selling a certain length of time on the course. Still, the accepted convention among golfers and operators is that golf courses sell 18-hole (or 9-hole) rounds, rather than a limited amount of time on the course.⁵

Even with a revenue-management program in place, however, most golf-course operators likely will continue to sell time in the form of rounds of predictable length (rather than explicitly selling time). This could be done directly, in theory, by asking customers when they make a reservation how long they want to play, but such an approach would require a radical change in thinking for both managers and customers. Even though that approach would help change the definition of duration from the round itself to the time involved in playing the round, the tactic might put off most customers—other than those who have a specific date or appointment to keep after the round.

⁵ A few golf courses do sell blocks of time, allowing golfers to play for a fixed length of time (e.g., two hours), with a reminder to leave when the time is up. For instance, some courses offer "twilight" golf in which players can start at 5:00 or 6:00 PM and must finish at sunset. Other alternatives to the traditional round of golf include shotgun golf (during which players start from different tees rather than all starting off the first tee) and directing some golfers to play the holes out of sequence by pointing them to available (vacant) tees.

Instead, most golf-course operators will have to keep track of the length of time that different types of golfers take to play (e.g., twosomes, foursomes, teenagers) and the percentage of time different tees are occupied during given dayparts. From those observations the operator could determine an average round length, while also noting any substantial variations. That is, the golf-course operator needs to know the average length of a round, plus how close to the average most golfers come. Wide variation of round lengths makes forecasting more difficult and perhaps calls for management efforts to make the duration more consistent.

Uncertainty of arrival. Golf-course managers and operators have always struggled with not knowing whether their customers will show up at all despite holding reservations (no-shows) and how many customers in a reserved party will show up (slippage). Some managers rely solely on walk-in business and queues to manage that uncertainty in customer arrivals (thereby ensuring a steady flow of customers during busy times). Golf-course operators have long taken reservations to gain a forecast of arrivals, but that does not eliminate uncertainty of arrival, since not all customers honor their reservations, others arrive early or late, and still others show up without all members of their party. In any of those cases the golf course faces the prospect of unused tee times.

Golf courses taking reservations can involve their customers in arrival management (external approaches) and use operational procedures (internal approaches) to decrease arrival uncertainty (Exhibit 1). Perhaps the most obvious internal approach is overbooking, which most golf courses have traditionally avoided. The primary external approach is to shift the liability for

arrival to the customer by introducing such practices as asking for deposits or guaranteeing reservations with credit cards.

Overbooking. Many capacity-constrained service industries use overbooking to protect themselves against no-shows. Golf-course operators have typically not used overbooking in this way but have instead relied on walk-in business as a buffer—although this strategy works only if enough walk-ins arrive at the right time.

The key to a successful overbooking policy is to obtain accurate information on no-shows, cancellations, and walk-in customers to set levels of overbooking that maintain an acceptable level of customer service. A manager can use simple mathematical models to develop appropriate overbooking policies by time of day, day of week, and time of year. A good overbooking policy balances the cost of unused tee times with the cost of inconveniencing or displacing a party—bearing in mind that a customer denied a reserved tee time may not be especially forgiving. A golf course that attempts an overbooking approach must develop good internal methods for selecting and handling displaced customers. Many industries base their displacement decision on time of arrival (if customers are late, their reservation is no longer honored), frequency of use (regular customers are never displaced), or perceived importance (important, high-spending customers are never displaced).

Following the approach of airlines, golf-course operators might ask customers who arrive during an overbooked time whether they would voluntarily relinquish a tee time and move to a different time (with an appropriate incentive). Airline customers seem to have accepted this practice, and some travelers even seek out the oppor-

tunity for a free trip when flights are oversold. Some golf courses use a voluntary rescheduling system when they believe they will be oversold by asking willing patrons to switch their round to a slower time. A call in advance to customers who have reservations at the congested time with the offer of a discounted or free round for switching to an open period could increase customer good will and increase profit. While displacing customers can make them angry, making them wait without warning could well be worse. In the latter situation, many golf courses attempt to compensate for the inconvenience of an unexpected wait by offering customers a discount or free items.

Shifting the consequences of not arriving to the customer is a practice that has been gaining currency in many service industries, although golf courses have been slow to adopt it. Hotels and airlines have used guaranteed reservations for many years and have thereby been able to reduce the number of no-shows. The American Express No-Show Initiative is attempting to accomplish the same thing for restaurants. Under this program, patrons are asked to give a credit-card number with a reservation and are warned that they will be charged if they do not come. If customers fail to honor their reservation (and give no notice), they are charged a fee (typically \$15 to \$25 per customer).⁶ This program, in conjunction with educational advertising on the impact of restaurant no-shows, has helped increase customer awareness of the need to cancel unwanted reservations. Program managers indicate that only a small percentage of the guaranteed reservations have turned into no-shows that incurred

⁶ Brian Breuhaus, "Handling No-shows: Operators React to Reservation Plan," *Restaurant Business*, Vol. 16, No. 1 (1998), p. 13.

a penalty—an indication that the program has succeeded. I believe that a similar approach could work well for golf courses and with little customer resistance.

Charging party greens fees can help reduce the problem of slippage. During busy times, most golf-course operators would prefer to have parties of four. When customers reserve a tee time for a party of four and then show up with only two or three people, the golf course suffers from the reduced greens fees. Rather than charging individual greens fees to members of a foursome, golf courses could institute a “party” greens fee. In that way, even reduced party sizes would pay the same greens fee as a party of four.

Golf courses have long required a deposit for busy times and days, although the practice may meet with customer resistance during other times. Again, a deposit helps ensure that customers will honor their reservation and also protects courses against last-minute cancellations.

Rather than requiring deposits in any form, some golf courses use a less obtrusive, more service-oriented method of reducing no-shows. These operators call their customers during the day to reconfirm their reservations. The call reminds the customer of the reservation and gives the customer a chance to cancel on the spot, if need be. The calls also create a reasonably solid forecast of the number of parties who intend to honor their reservations. For this approach to be successful, the increased revenue associated with a reduction in no-shows should compensate for the incremental personnel cost associated with calling customers.

To encourage customers to arrive on time, golf courses could offer a service guarantee. Some golf courses, for instance, offer free or discounted play to patrons who must wait more

than ten minutes after their scheduled tee time.

Uncertainty of Duration

A golf-course operator who has dealt with the arrival-time issue must still be able to forecast round length accurately, because this variable is the one that controls the number of tee times available. With this information, operators of reservation-based golf courses can decide which reservation requests to accept, and golf courses with a large walk-in trade will be better able to provide accurate estimates of waiting time for customers in the queue. As with arrival time, golf-course operators can exert some control over round duration. Internal approaches in this case revolve around making the round length more consistent, while the external approaches involve encouraging customers to keep moving from hole to hole rather than lingering once a hole has been completed. By reducing time variability, managers will be better able to give accurate estimates of waiting time and determine whether additional reservations could be accepted (and if so, for what times).

Most golf courses charge for cart rental, but in reality, carts may speed play by enough to justify a reduced fee or even free use when the course is crowded. Alternatively, courses could require the use of carts during high-demand times. Indeed, some golf courses require the use of a cart and a caddie. For example, Colonial Williamsburg and The Homestead both require the use of a cart, while The Greenbrier requires a cart when golfers do not employ a caddie. A caddie not only provides golfer assistance but can also serve to regulate playing time.

Part of duration management involves signaling customers that it is time for them to move to the next

hole. Customers who unexpectedly linger after they've completed a hole may prevent the next party from playing. Implicit and explicit signaling devices can be used to remind players it is time to move, with the caveat that some explicit approaches risk customer ire. Nevertheless, there are inoffensive methods of moving customers along. For example, in Singapore, golf clubs regularly post the playing time of each member in an attempt to apply peer pressure on slow players. Most courses use marshals to regulate the flow of play and to remind slow players to pick up their pace.

Global positioning systems and other technology can be used to inform customers of expected playing time per hole. While such information does not force customers to play faster, it serves as an implicit reminder of expected playing time. Global positioning systems can also be used to help sell a round of golf differently. Golfers who do not have a preference for the sequence in which holes are played can use a cart equipped with a global positioning system that will direct them to the next free hole.

Another tactic that could improve golf-course flow is to offer separate playing times for beginners. Experienced golfers usually play faster than novices, and the separate times might help ease the frustration that experienced golfers feel when following beginners and relieve the tension that novice players feel when being followed by experienced golfers.

Reducing tee-time interval.

Reducing a course's tee-time interval increases capacity and revenue. Golf courses traditionally use a 10-minute tee-time interval, but intervals of eight and nine minutes are not unheard of. Consider a golf course that is open for 12 hours. If the golf course uses a 10-minute

tee-time interval, its maximum number of parties is 72 $[(12 \text{ hours} \times 60 \text{ minutes/hour}) \div 10 \text{ minutes}]$, while if it uses a nine-minute tee-time interval, its maximum number of parties jumps to 80 $[(12 \text{ hours} \times 60 \text{ minutes/hour}) \div 9 \text{ minutes}]$. If it decides to go down to an 8-minute tee-time interval, the maximum number of parties increases to 90 $[(12 \text{ hours} \times 60 \text{ minutes/hour}) \div 8 \text{ minutes}]$. This tactic will not offend a departing customer and should please the customers who are waiting to play. Golf courses using the eight- and nine-minute tee-time intervals report no difficulty with customers honoring the sometimes unusual starting times (e.g., an 8:27 AM tee time).⁷

Price Management

People commonly connect revenue management with offering discounts, but discounting is only part of the revenue-management story. When price is used as a tool of revenue management, managers must think beyond off-peak specials and develop methods for offering differential prices that make sense for the demand level at a given time. Hotels and airlines use various rules, sometimes known as fences, to offer discounts on inventory that might otherwise not be sold at all to customers who might otherwise not purchase—while at the same time preventing customers who were going to buy anyway from taking advantage of a discount that they did not actively seek.⁸ Thus, coach passen-

gers flying from Chicago to Los Angeles may pay nothing (for those using frequent-flyer vouchers) or over \$1,500 for the same type of seat. The fares vary according to the time of the reservation, the days that the individual is flying, and group or company affiliations that the flyer might have. The fences can comprise almost any set of rules as long as they somehow make sense to the customer. In contrast, most golf courses offer the same greens fee regardless of the customer's demand characteristics. Perhaps the question for golf-course operators is whether they could implement some kind of pricing differential for busy times (e.g., Saturday mornings) and slack times. Late-day or seniors' specials are a step in this direction, as are special prices for affinity groups and frequent-diner clubs. The next step is to create an overall demand-management program based in part on time-based pricing.

Charging price premiums is generally not acceptable, as revealed by the work of Kahneman, Knetsch, and Thaler.⁹ Although it is possible to charge a higher price solely based on high demand, customers may resent being charged different prices for essentially the same tee time, unless they perceive a "fair" reason for the price differential. The Kahneman group suggests that an approach of setting a "full" price during high times and then offering discounts during slack or other unfavorable times is viewed as more fair than levying surcharges in the face of strong demand. However, they noted that most customers expect companies to charge rela-

⁷ The concept of reducing changeover time is now a common strategy for airlines. Southwest Airlines and the Shuttle by United both boast 20-minute aircraft turnarounds and have thereby been able to increase plane use. See: Sheryl E. Kimes and Franklin Young, "The Shuttle by United," *Interfaces*, Vol. 27, No. 3 (1997), pp. 1-13.

⁸ See: Richard D. Hanks, Robert G. Cross, and R. Paul Noland, "Discounting in the Hotel Industry: A New Approach," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 33, No. 3 (June 1992), pp. 40-45.

⁹ D. Kahneman, J. Knetsch, and R. Thaler, "Fairness as a Constraint on Profit Seeking: Entitlements in the Market," *American Economic Review*, Vol. 76, No. 4 (1986), pp. 728-741. For a summary of this work, see: Glenn Withiam, "What's Fair (and What Ain't Fair)," *Cornell Hotel and Restaurant Administration Quarterly*, Vol. 27, No. 3 (November 1986), p. 7.

tively modest prices that allow the business to fill to overflowing, with the resulting excess demand managed by queues. This was once a strategy used by the airlines, but more than a decade of airline revenue management has changed that approach, and the stand-by passenger is nearly extinct. In determining who pays which price, managers must develop logical selection methods that make sense to customers without offending their sense of fairness, because, as the Kahneman group discovered, customers will go out of their way to punish a business that they perceive has acted unfairly.

Fences. Golf-course operators might take into account the following attributes in developing price fences. Physical attributes include party size, golf cart, and other amenities, while intangible rate fences include group membership or affiliation, time of day or week, round duration, presence or timing of the reservation (e.g., whether the party is a walk-in), and whether the reservation is guaranteed (see Exhibit 2).

The purpose of intangible rate fences is to shift demand from busy times to slow periods, to reward regular and reliable customers, and to schedule the highest-margin business at the busiest times.

The supply of tee times exceeds the overall demand in most markets (but not at all times of the day or week), and managers frequently offer discounted prices in an attempt to fill empty tee times. The point of revenue management is that the discounts should fit the golf course's overall strategy. As long as the variable costs of the round are covered, managers

Exhibit 2 Types of rate fences

Physical rate fences	Intangible rate fences
Party size	Group membership
Golf cart	Time of day or week
Other amenities	Duration of use
	When reservation booked
	Walk-in versus reservation
	Guaranteed reservations

should consider offering discounts and other benefits for golfing during off-peak times.

Be careful. Broad-scale discounting is dangerous because price is one of the means that customers use to determine the perceived value of a service—making fences important. One tactic to offset this difficulty is to offer late-day or other specials to particular markets. This approach builds demand for slow periods, but does not diminish the customer's perception of the regular offerings. Beyond late-day specials and the like, some golf courses offer tournaments, lessons, or barbecues during slow periods to attract business. Clubs with meeting facilities solicit camps and corporate business for slow times. Other golf courses have developed frequent-golfer clubs that offer bonus points for customers who golf during off-peak periods.

Customers and groups who provide a substantial amount of business should be rewarded with benefits and discounts. Some golf courses offer discounts to customers who are associated with particular groups (e.g., AARP) or who are employees of certain corporations. Regular customers are sometimes guaranteed desirable tee times, and golf courses can offer discounts to customers who make

A Typology of Revenue Management

Different industries are subject to different combinations of duration control and variable pricing (see accompanying table). Industries traditionally associated with revenue management (hotels, airlines, car-rental firms, and cruise lines) are able to apply variable pricing for a product that has a specified or predictable duration (Quadrant 2). Movie theaters, performing-arts centers, arenas, and convention centers charge a fixed

price for a product of predictable duration (Quadrant 1), while restaurants, golf courses, and most internet-service providers charge a fixed price but face a relatively unpredictable duration of customer use (Quadrant 3). Many health-care businesses charge variable prices (e.g., Medicare versus private pay), but do not know the duration of patient use, even though some may try to control that duration (Quadrant 4). The lines dividing the quadrants are broken because in reality there is overlap between quadrants for many industries. Thus, an industry (such as golf courses) may have attributes from more than one quadrant.

Successful revenue-management applications are generally found in Quadrant-2 industries, because they can manage both capacity and price. Golf courses (in Quadrant 3) can use Quadrant-2 strategies to achieve some of the revenue gains associated with revenue management by manipulating duration and price. Although many golf courses use some of the tools described in the accompanying article, a strategic framework with which to evaluate and position such efforts has not yet been developed.—S.E.K.

		Price	
		Fixed	Variable
Duration	Predictable	Quadrant 1 Movies Stadiums and 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

guaranteed reservations by a specified advance time.

Many golf courses have season memberships for which members pay one fee for unlimited play. While such an approach rewards regular customers and builds a revenue base, it does not always go along with a wise revenue-management strategy. In effect, season memberships offer a discount to the customers who have the highest desire to play. An alternate approach to season membership might be to offer unlimited play during off-peak hours and discounted greens fees during peak hours.

Unified Approach

Few of the ideas connected with revenue management that we have presented here are novel or untried. In fact, my examples are drawn from actual golf courses' activities.¹⁰ What is needed is a unified framework for developing and implementing strategic differential pricing. The accompanying box summarizes the strategic revenue-management positions of several industries by comparing their abil-

¹⁰ The operations from which I borrowed the examples include: American Golf, Cornell University's Robert Trent Jones golf course, Marriott Resorts, the Phoenix Country Club, and Walt Disney World Resorts.

ity to control duration and to vary price.

Golf courses can adapt the principles of revenue management to increase revenue per available tee time by emulating certain attributes of the industries that use revenue management successfully (i.e., those in Quadrant 2 of the box). The key elements are being able to predict the duration of a customer's play and to establish variable prices based on a customer's demand characteristics. Golf-course operators can make duration more predictable by reducing the uncertainty of when (or whether) customers will arrive and by reducing the variability of the length of the round. Operators can apply differential pricing and logical rate fences to build demand during off-peak periods and to establish appropriate prices for busy periods.

Many golf courses practice some of the revenue-management approaches described in this paper, but do not yet have a strategic framework by which to coordinate those practices. The intent of this paper was to explain the elements of such a strategy, recognizing that the strategies will be as divergent as the golf courses themselves. Thus, researchers and consultants are challenged to use this framework to assist golf-course managers in identifying revenue-management opportunities and to develop appropriate duration-management and differential-pricing approaches. In the long run, achieving the full potential from revenue management lies in management's ability to market and manage every available moment of the golf course as a unique product. This in turn requires that golf-course operators treat the time and length of the round as a variable that should be as carefully managed as the service process itself. **CQ**