

# Parking

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1706 Rittenhouse Square Street Garage

# OPTIMIZING YIELD

How Parking Can Learn From Airline Industry Strategies



*Yield management is a pricing strategy, based on understanding, predicting and shaping consumer behavior in order to maximize revenue from fixed, perishable resources (such as parking spaces and airline seats). Yield management involves strategic control of inventory: selling to the right customer, at the right time, for the right price.*

# IN PARKING

The notion of optimizing yield is closely linked to the airline industry, and Robert Crandall, former chairman and CEO of American Airlines, coined the phrase “yield management.” He has called it “the single most important technical development in transportation management.”

In the 1980s, airlines faced increased pressures to generate revenue due to overwhelming competition. At the same time communication technology was advancing, the airlines began an unprecedented consolidation that has lasted more than 35 years, including:

- Delta - Western 1987
- Continental absorbing Peoples Express, Frontier, New York Air 1987
- Delta - Pan Am 1991
- American - Trans World Airline 2001
- US Air - America West 2005
- Delta - Northwest 2008
- United - Continental 2010
- Southwest - Air Tran 2010
- American - US Air 2013

The parking industry has consolidated in a similar fashion:

- Standard - APCOA 1998
- Central - Kinney 1998
- Central - Allright 1999
- Standard/APCOA - Colonial 1999
- LAZ - Sunset 2008
- LAZ - VINCI 2008
- Standard - Central 2012

## Airline Consolidation Increased Travel Data

While the airlines were enduring growing pains of consolidation, travel data began to be used in a new way. The airlines took advantage of industry mergers to use the now larger assemblages of airline data to develop data-driven solutions for cost savings, revenue generation and to gain a competitive advantage.

In the airline industry, “big data” drove a yield management revolution. Algorithms were used to predict optimal preventive aircraft maintenance schedules. Capturing customer behaviors became the key to unlocking hidden revenue.

No longer was the goal to simply maximize load capacity, but the real gain was the optimization of how much value (yield) a company can obtain per seat mile flown.

## Customer Analytics Justify Dynamic Pricing

For revenue optimization, the airline industry used customer segmentation through “big data” analytics, which was the means to a profitable end.

Different customers are willing to pay different prices for using the same amount of resources, such as an available seat. The key to improving yield has been based on “who” customers are, and not simply counting travelers in seats.

The airline industry has leveraged the technology to the point that the following data are tracked for every single transaction, making airlines understand customer habits better than the customers themselves:

- Location
- Price
- Amenity
- Weather at departure/ arrival city
- Date and day of the week
- Number of days between booking and departure
- Length of stay
- Number of persons traveling
- Market segmentation—there are programs for every customer type (first class, business class, premium econ-

omy class and economy class seating)

- Diverse products—airlines now sell more than a seat on a flight, including checked baggage, food/beverages, seat locations, travel packages, car rental, Wi-Fi and entertainment
- Loyalty programs – frequent flyer, credit card customers, lounges/clubs

There is a clear understanding of what each customer will pay, elasticity of demand, how often they fly, which services they will choose, seasonal demand and what makes customers satisfied or unsatisfied. But most importantly, the database is growing, further refining the predictive power of this information.

## Both Airlines and Parking Facilities Face Limited Capacity

For an airline, capacity is regarded as fixed (just like a parking facility). When the aircraft departs, the unsold seats cannot generate any revenue, and thus can be said to have perished (parking revenue opportunities perish each day). Airlines use software to monitor how seats are reserved and react accordingly.

For example, airlines can offer discounts on low-demand flights or sell more expensive seats when there is surplus



# COMPARISON OF YIELD OPTIMIZATION AIRLINES VS. PARKING

|                              | Airline Industry  | Parking Industry  |
|------------------------------|---|---|
| <b>Capacity</b>              | Limited number of seats on each aircraft  | Limited number of spaces in each parking facility   |
| <b>Variability of Demand</b> | Seasonal demand increases on holidays   | Daytime demand often greater than evenings  |
| <b>Perishability</b>         | After aircraft departs seats can no longer be sold                                    | Spaces have new availability each day   |
| <b>Advance Sales</b>         | Seats are reserved in advance   | Parking reservation systems increasing in use   |
| <b>Market Segmentation</b>   | Extremely sophisticated market segments; customer will to pay more at the last minute | Poor use of variable pricing strategies; strong indication customers would buy premium parking if available |
| <b>Data Collection</b>       | Fully embraced yield management systems   | Customer data mostly collected by location and not company-wide   |

demand. To change the mix, airlines use purchase restrictions and length of stay requirements. Most importantly, airlines keep a specific number of seats in reserve to serve the anticipated demand for high-fare seats.

## Big Data Equivalent Not Yet Materialized in Parking

Unlike the airline industry, parking management firms have not taken advantage of the data collection opportunities brought by consolidation. Parking is in need of its own “big data” revolution. With a few more bells and whistles, we are essentially collecting data in a similar fashion as we did 30 years ago—location-by-location.

## Parking Companies Must Capture Key Data from All Customers

In order for the parking industry to fully understand its customers, every major parking management company needs to capture and mine data of monthly and transient

customers. Every time a customer enters a facility, his activity would be tracked. Every customer’s information, including name, location, length of stay, payment amount, frequency, time of entry/exit and amenities purchased would be collected.

A system would analyze the impact of holidays, weather, market conditions and complete pricing on yield. The “system” could be used to optimize demand-based rates and predict elasticity of demand for proposed rate adjustments.

## Data Collection Opportunities Increase with Mobile Payments

Another distinction between airline and parking industries is centered on data collection opportunities. The airlines collect data on virtually every customer. Where a parking operation collects customer data on only contact patrons, daily customer data has been mostly ignored. Even the habits of known monthly

customers are only reviewed on a macro level.

But the necessary tools to optimize yield in parking facilities are now becoming a reality. The proliferation of Internet-based mobile payment/reservation systems increases the data collection opportunities. The right technology could soon separate parking companies from the “pack” and “Uberized” parking.

## Varying Parking Choices Create Less Brand Loyalty

In the parking industry, the biggest issue has always been who “owns” the customers. Brand loyalty is harder to come by, as parking choices vary from one destination to another and not necessarily by which firm is managing the facility.

However, loyalty from customers and owners alike would improve by using analytic tools similar to products that have been developed by the airlines.

To entice customers to share their personal information, loyalty programs, increased convenience and better service must be offered in exchange. Consider offering larger spaces at premium prices, and smaller and less conveniently located spaces could be charged a discount.

Like the airlines, for parking managers to optimize yield, those managers would no longer focus on just the number of cars parked, but on their specific customers’ habits and the mix of customers in the facility. ■



Jerry Marcus is president of The Parking Advisory Group. Email him at [jmarcus@theparkingadvisorygroup.com](mailto:jmarcus@theparkingadvisorygroup.com).