

The Hidden Cost of Open Pricing: Why Saving Rooms for Your Best Customers Wins

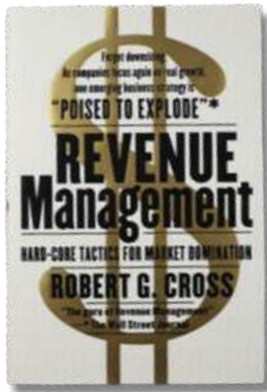
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Table of Contents

Executive Summary.....	3
Origins of Revenue Management in Hospitality.....	4
The Price Optimization Revolution.....	6
All Pricing, No Controls – the Open Pricing Strategy.....	7
Why Optimized Inventory Controls over Open Pricing:	
The Original RM Opportunity.....	9
Greater Profit with a Better Mix.....	14
Better Customer Experience.....	15
Conclusion.....	16

Executive Summary



Many of you have read my father, Robert G. Cross's book, Revenue Management. Published in 1997, it is considered by many to be the pre-eminent book on the discipline of Revenue Management (RM).

In RM circles, it is often referred to as "The Book." Many have studied the Seven Core Concepts of Revenue Management he outlines in Chapter 3, and might be surprised that, 27 years after the book's publication, thousands of hoteliers and multiple Revenue Management System (RMS) providers still overlook Core Concept #4:

"Save your products for your most valuable customers."¹

The main culprit is a strategy called "Open Pricing," which has become popular over the last 10 years. Open Pricing is defined as a twofold concept: First, "it enables you to have as many incremental price points on a demand curve as you want, regardless of the BAR price."² Second, "it also allows you to be open and selling even during peak periods."³ The first aspect of Open Pricing undoubtedly drives revenue growth. Shifting from static Best Available Rate (BAR) tiers and fixed rate differentials to flexible BAR pricing and dynamic differentials aligns with economic theory and has been proven to boost revenue.

This more flexible pricing is commonplace, and a standard capability for any RMS these days. But second part of the strategy, that "open pricing means never closing the door on a guest who wants to book a hotel",⁴ clearly violates Core Concept #4.

This whitepaper will establish that the practice of setting inventory controls and saving your products for your most valuable customers is a superior strategy to Open Pricing, particularly when an RMS sets those controls through inventory optimization. This is true for three reasons:

- 1. Inventory controls capture perishable revenue opportunities from shoulder dates alongside peak dates (the original RM opportunity in hospitality);**
- 2. Inventory controls allow hotels to grow profit by yielding out less profitable rate plans and Length-of-Stay (LOS) patterns; and**
- 3. Inventory controls managing availability by LOS offer a far better customer experience than exponentially increasing rates on peak nights.**

Hoteliers that move from an Open Pricing strategy to an Optimized Inventory Control strategy can drive revenue uplift, deliver stronger profits to owners, and create a better customer shopping experience.

[1] Robert G. Cross, Revenue Management, 1996, p.61

[2] Duetto Content Team, Drive profits with an Open Pricing revenue management strategy, September 12, 2024

[3] Duetto Content Team, Drive profits with an Open Pricing revenue management strategy, September 12, 2024

[4] HSMAI and Duetto Whitepaper, Open Pricing: The Basis of Good Revenue Strategy

Origins of Revenue Management in Hospitality

My dad, Robert G. Cross, was a pioneer of Revenue Management, starting the first RM department at Delta Air Lines in the early 1980s. The discipline was called Yield Management then because the team used data and analytics to “yield” the availability of fare classes on busy flights to conserve inventory for the most valuable customers. The story of how he identified the opportunity and built the Yield Management function at Delta is a great one – check out Chapter 3 of The Book.

After Delta’s success in driving \$300 million in revenue uplift with Yield Management, the company got written up in the Wall Street Journal. The article called my dad “The Guru of Revenue Management.” Based on his newfound notoriety, he started his own business out of our living room in 1983. He called the company “Aeronomics” and set off building RM systems for many of the largest airlines in the world. As the discipline took hold in the airline industry, other industries like hospitality, cruise lines, and media reached out to him to see if RM could help their businesses.

The Book says it best:

“The problem of perishability of valuable assets was at the origin of RM. You can’t sell an empty seat on an airplane that has already taken off. You can’t sell last night’s empty hotel room.”⁵

Early adopters of RM in hotels realized that there was a tremendous opportunity to yield demand by LOS; capturing excess demand on peak nights helped fill the hotel on surrounding shoulder nights. Greg Cross, who pioneered RM at Hilton in the 1990s, used to tell his Revenue Managers, “I don’t need YOU to sell this hotel out on Tuesday nights. This hotel sells itself out on Tuesday nights. I need YOU to sell this hotel out on Monday nights and Thursday nights.” (And no, I am not related to Greg Cross, but “Uncle Greg” is a long-time friend and colleague).

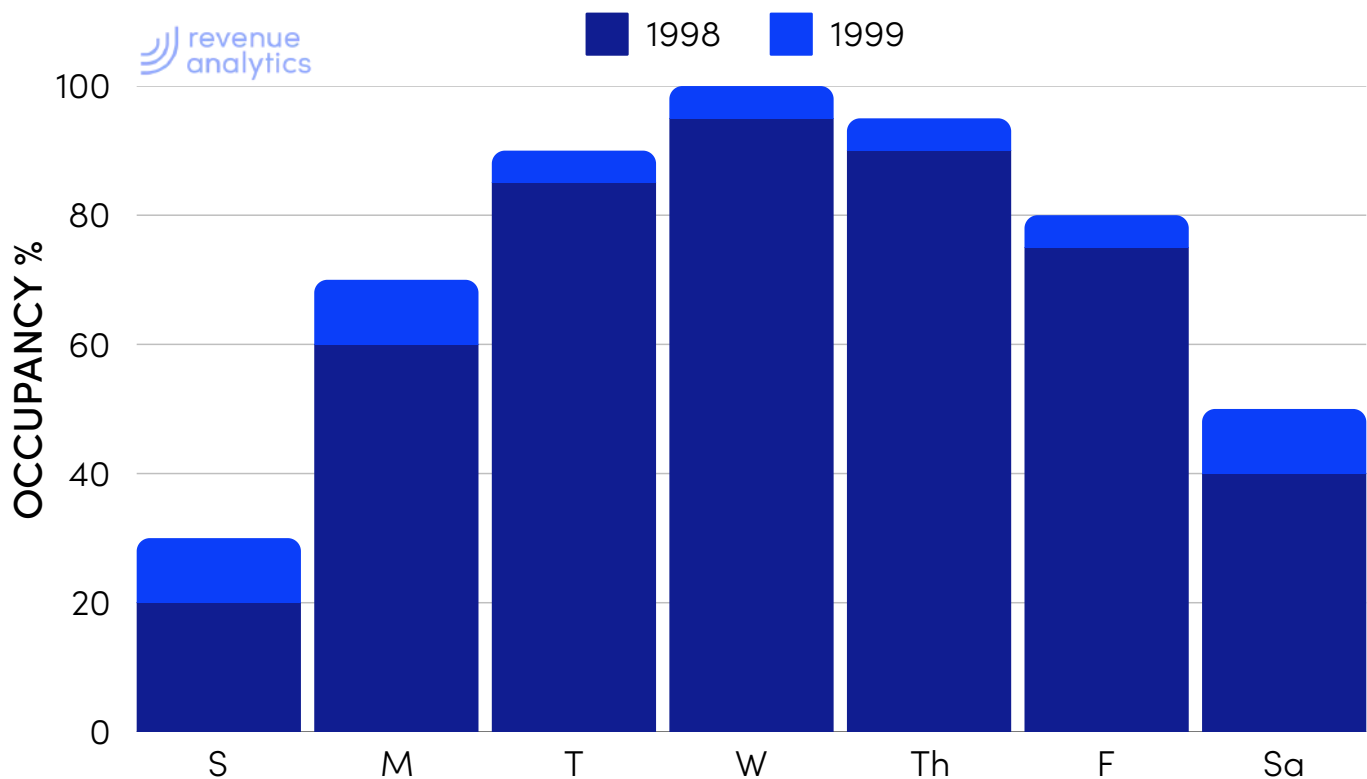


[5] Robert G. Cross, *Revenue Management*, 1996, p.135

Origins of Revenue Management in Hospitality

Marriott was another early adopter of RM in the hotel industry. Working with Aeronomics, they built an RMS called DFS (Demand Forecasting System) to forecast demand and optimize LOS restrictions by rate plan and room group. The Book tells a story about the Munich Marriott, which was a test site for DFS. During Oktoberfest, hotels would generally raise their rates and close out all discounts. The optimization behind DFS recommended a different strategy – it left some discounts open for LOS patterns that crossed shoulder nights before and after the peak days of the festival. The results were staggering: “Although the average daily rate was down 11.7% for the period, occupancy was up over 20%, and overall revenues were up 12.3%.”⁶

Oktoberfest Occupancy YoY



Hotel room nights are a perishable asset. Forecasting demand and optimizing inventory controls by LOS was the original RM opportunity in hospitality. Over 30 years ago, enterprise chains built out teams, processes, and systems to capture this opportunity. A key element of the opportunity was leveraging demand for peak nights to sell out shoulder nights. That opportunity remains today, but requires yielding to capture.

The Price Optimization Revolution

With the Internet Boom in the late 1990s and early 2000s, Online Travel Agencies (OTAs) brought a new level of pricing transparency to the hotel shopping experience. Suddenly, prospective guests could quickly compare rates across multiple hotels. As a result, hotel Revenue Managers began to focus greater time and attention on dynamically adjusting their prices.

However, dynamic pricing was a challenge as many hotels had a static transient rate structure tiered off of a Best Available Rate (BAR). For example, if a hotel's current BAR was \$209, to raise their price, they might have to shift to the next possible BAR tier of \$229; they could not simply change BAR to \$215. And for each BAR tier, discounted transient rate plans would move with BAR at a fixed discount level. Discounts could not be flexed based on forecasted occupancy.

At Revenue Analytics, we partnered with IHG to create an innovative new capability that would optimize BAR rates (called Best Flexible Rates at IHG) based on three factors: demand vs. capacity, competitive rates, and price elasticity. These optimized BARs could be set at any price point, not just pre-defined BAR levels like \$209, then \$229. Adding BAR price optimization to the RMS made pricing significantly more dynamic and automated.



The joint IHG–Revenue Analytics team measured a 2.7% RevPAR uplift by adding price optimization to IHG's PERFORM RMS.⁷ After IHG published these results in their 2009 Annual Report, the IHG–RA team was named a finalist for the prestigious Franz Edelman Award for Achievement in Operations Research, and price optimization became a hot topic.

Over the years, Revenue Analytics has partnered with multiple enterprise chains, including Marriott, Starwood, and Hyatt, to add price optimization to their existing RMS or to develop a next-generation RMS that included both price optimization and inventory control optimization. Elsewhere in the industry, a number of new RMS vendors launched systems that focused only on price optimization without inventory control optimization. By 2019, price optimization was seen as the central capability of most RMSs.



[7] Dev Koushik, John Higbe, Craig Eister (2012), *Retail Price Optimization at InterContinental Hotels Group*, *Interfaces* 42(1), 45–57

All Pricing, No Controls – the Open Pricing Strategy



Founded in 2012, Duetto launched an RMS focused solely on pricing. They created significant buzz by talking about their “Open Pricing” strategy. Per the Duetto website, “an Open Pricing strategy enables rates to adapt to market demand. On compression nights, discounts can be flexed to zero rather than closed so that your inventory remains available on all channels.”⁸

While this is reflective of most descriptions of Open Pricing, it conflates two important concepts that should be thought of separately:

**(1) the capability to dynamically flex discounts, and
(2) the strategy to make sure that inventory is always available (hence, “open”).**

The first capability of being able to dynamically flex both BAR and discount rates and/or room type differentials is an important capability for any modern RMS. Moving from one BAR level to another, rather than being able to set BAR at any price point, is suboptimal. But setting BAR rates at any level has been a standard capability of most RMSs for the last ten years, as noted above. The notion of reducing the level of discount for transient rate plans on compressed nights is also a time-honored RM practice.

So, an RMS that provides the user with the ability to automatically change, for example, the AAA discount from a standard 15% to 5% on busy nights, is a powerful capability. Revenue Analytics’ N2Pricing RMS includes a core module called Dynamic Differentials that allows users to apply smart rules to flex rate plan and room type differentials up or down based on forecasted demand or other circumstances. This allows the RMS to automatically execute the optimal rate strategy under any conditions.

[8] Duetto, *Duetto.com*. Accessed November 12, 2024.

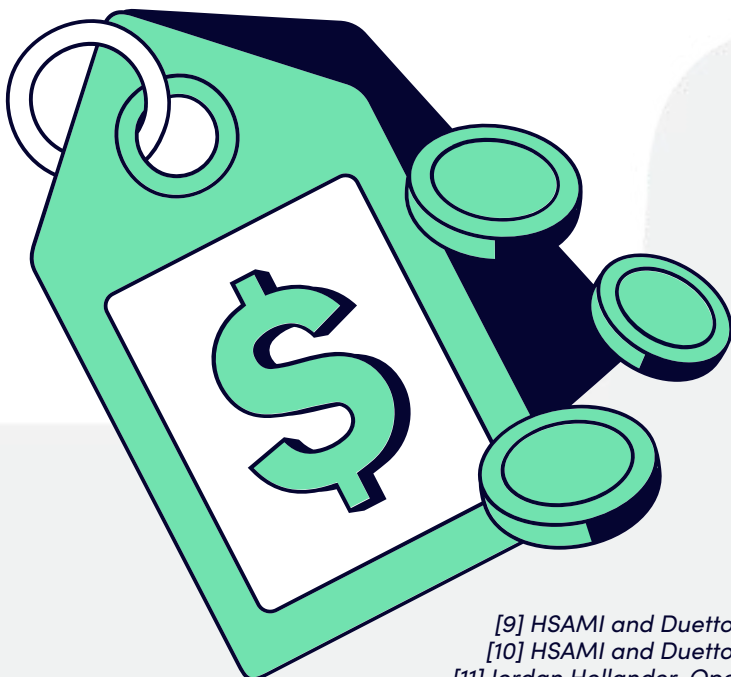
All Pricing, No Controls – the Open Pricing Strategy

But moving from static BAR levels and rate plan and room type differentials to more dynamic BAR pricing and differentials is a very different notion than leaving all rate plans open, even in peak demand periods. Articles on Open Pricing seem to combine these notions, rather than separating them. An HSMAI and Duetto whitepaper states that “the promotional rate could be two percent less than BAR on a compressed date and the more typical 10 percent on softer dates. The OTA package net rate may not even be discounted on a highly compressed date, but at least it would remain open to customers only shopping those OTAs.”⁹ The whitepaper later concludes: “Open pricing means never closing the door on a guest who wants to book a hotel.”¹⁰

Indeed, Open Pricing theory seems to focus on the lack of inventory availability controls as a compelling feature. A 2024 Hotel Tech Report article on open pricing states,

“Open Pricing puts your guests in control, testing their price sensitivity by presenting all available options. Instead of closing out room types and saying ‘no’ to the guest, the guest chooses to say ‘no’ to the hotel.”¹¹

The Duetto website also touts the ability to “Stay open and selling even during peak periods.”¹²



[9] HSAMI and Duetto, *Open Pricing: The Basis of Good Revenue Strategy*
[10] HSAMI and Duetto, *Open Pricing: The Basis of Good Revenue Strategy*
[11] Jordan Hollander, *Open Pricing: The Concept Hotel Groups of All Sizes are Using to Grow Total Profitability*, Hotel Tech Report, February 2, 2024
[12] Duetto, *Duetto.com*. Accessed November 12, 2024.

Why Optimized Inventory Controls over Open Pricing: The Original RM Opportunity

Focusing solely on pricing and flexing discounts to maximize revenue makes sense if we are looking at one staynight in a vacuum. But hotel stays often, if not generally, cross multiple nights. So, understanding LOS patterns is critical to maximizing revenue.

As The Book says,

“You can’t sell last night’s empty hotel room.”

Forecasting demand and optimizing inventory controls were the original RM opportunities for hotels—and they still are today.

The goal is to maximize revenue over an entire period, not just a single night.

Let’s set up a simple example to illustrate the revenue opportunity. We’ll look at a 5-day period at the ATLien, a 100-room boutique hotel in Atlanta. There is a conference on Wednesday with peak demand across Tuesday and Wednesday nights. Most of the demand is for one-night stays on one of the two nights, and the hotel will easily sell out those nights. In this scenario, there is only one room left to sell on each of those nights. Here’s how the demand forecast and capacity look across the period when we assess the situation:

ATLien Hotel

Day of Week	Monday	Tuesday	Wednesday	Thursday	Friday
Forecasted Occupancy %	85%	100%	100%	80%	60%
Demand Rating	Shoulder	Peak	Peak	Shoulder	Low
Available Rooms	30	1	1	25	50

The demand forecast projects that while Monday and Thursday nights have solid demand, they are highly unlikely to sell out, and Friday night’s demand is even weaker.

We will book additional rooms on these nights, but once the last rooms for Tuesday and Wednesday are sold, the hotel will effectively be closed to stay patterns that include those nights due to lack of availability.¹³

[13] To keep this exercise simple, we will assume that the GM has a strict policy against overbooking the hotel.

Why Optimized Inventory Controls over Open Pricing: The Original RM Opportunity

With an Open Pricing strategy, we would aggressively increase BAR and reduce key discounts to 0% for peak nights without setting LOS restrictions. While we would expect to sell more rooms on shoulder nights, our focus is on bookings that overlap peak periods. Since demand is strongest for Tuesday and Wednesday, and most stays are for one night, we should anticipate primarily selling single-night stays for those peak nights. Here's how that scenario looks:

Open Pricing in High Demand Period

Day of Week	Mon	Tues	Wed	Thurs	Fri
Forecasted Occ %	85%	100%	100%	80%	60%
Demand Rating	Shoulder	Peak	Peak	Shoulder	Low
BAR	\$229	\$329	\$329	\$209	\$169
Adv. Purchase Discount	15%	0%	0%	15%	20%
Adv. Purchase Discount Rate	\$195	\$329	\$329	\$178	\$135
Available Rooms	30	1	1	25	50
LOS Restrictions (BAR + AP)	N/A				
Most Likely Booking Crossing Peak	0	1	1	0	0
Revenue From Booking	\$0	\$329	\$329	\$0	\$0
Total Revenue	\$658				

Open Pricing will aggressively drive BAR; in this scenario, BAR rates for Tuesday and Wednesday night are 40–50% higher than BAR rates where demand is strong but not projected to sell out, like Monday or Thursday. The Advance Purchase Discount has been flexed to 0%.

So, regardless of what rate gets booked, the hotel will generate \$329 in room revenue on both Tuesday and Wednesday. Since most of the demand is one-night demand, and since there is only one room left on both Tuesday and Wednesday, the most likely outcome is that those one-night bookings will come in first. The revenue for the hotel will be \$658.

Why Optimized Inventory Controls over Open Pricing: The Original RM Opportunity

The problem with this approach is that the hotel is now effectively closed for any stay pattern that crosses Tuesday or Wednesday night. Depending on the hotel's LOS profile, this could impact multiple days before or after the peak periods. The consequence of Open Pricing is that the way bookings happen to come in is what closes out availability, rather than the hotel's intentional RM strategy.

If we follow Core Concept #4 and save our products for our most valuable customers, we will recognize that those longer LOS customers are more valuable. With an Optimized Inventory Controls strategy, we want to proactively close out the one-night stay patterns on Tuesday and Wednesday to save our last room for longer LOS guests. The right RMS will forecast demand by LOS and run an inventory optimization to set the optimal LOS restrictions for each night. This notion dates back to the advent of hotel RM in the 1990s, but the analytics required to predict and evaluate all possible LOS permutations over time are extremely complex and sophisticated. Proven algorithms that have been improved over time are the most trustworthy here.

To be conservative, let's assume that the pricing optimization is not as aggressive on the peak nights as Open Pricing would be. That's not necessarily the case, as it would depend on demand levels and competitive rates, but it's more conservative for this analysis. Let's also assume that we maintain some level of Advance Purchase Discount. So, for those peak nights, we can assume that BAR is set at \$279, and Advance Purchase Discounts are flexed down from 15% to 5%. Rates on the other days of the week remain the same as the prior example.



Why Optimized Inventory Controls over Open Pricing: The Original RM Opportunity

Let's start with a conservative case, which assumes that there isn't much demand for LOS patterns longer than three nights. In this case, the inventory optimization places three-night minimum LOS control on Monday and Tuesday nights to ensure that the last rooms available on Tuesday and Wednesday are part of a three-night stay.

Here's how that case plays out (changes from the Open Pricing Case highlighted in blue):

Price Optimization + Inventory Optimization in High Demand Period

Day of Week	Mon	Tues	Wed	Thurs	Fri
Forecasted Occ %	85%	100%	100%	80%	60%
Demand Rating	Shoulder	Peak	Peak	Shoulder	Low
BAR	\$229	\$279	\$279	\$209	\$169
Adv. Purchase Discount	15%	5%	5%	15%	20%
Adv. Purchase Discount Rate	\$195	\$265	\$265	\$178	\$135
Available Rooms	30	1	1	25	50
LOS Restrictions (BAR + AP)	Min 3 Night	Min 3 Night	Min 3 Night	-	-
Most Likely Booking Crossing Peak	1	1	1	0	0
Revenue From Booking	\$195	\$265	\$265	\$0	\$0
Total Revenue	\$725				
% Revenue Change (versus Open Pricing)	10%				

Even with lower BAR rates and some Advance Purchase Discounts, the Optimized Inventory Controls strategy delivers 10% more revenue than the Open Pricing case. That is because the inventory optimization recognizes demand from more valuable customers and saves the product for those customers.

Why Optimized Inventory Controls over Open Pricing: The Original RM Opportunity

In a case where the demand forecast identifies demand for even longer lengths-of-stay, the benefits of the Optimized Inventory Controls strategy grow. In this case, the inventory optimization will apply more aggressive LOS controls during this week.

Here's how that case unfolds:

Price Optimization + Inventory Optimization in High Demand Period

Day of Week	Mon	Tues	Wed	Thurs	Fri
Forecasted Occ %	85%	100%	100%	80%	60%
Demand Rating	Shoulder	Peak	Peak	Shoulder	Low
BAR	\$229	\$279	\$279	\$209	\$169
Adv. Purchase Discount	15%	5%	5%	15%	20%
Adv. Purchase Discount Rate	\$195	\$265	\$265	\$178	\$135
Available Rooms	30	1	1	25	50
LOS Restrictions (BAR + AP)	Min 4 Night	Min 5 Night	Min 4 Night	-	-
Most Likely Booking Crossing Peak	1	1	1	1	0
Revenue From Booking	\$195	\$265	\$265	\$178	\$0
Total Revenue	\$902				
% Revenue Change (versus Open Pricing)	37%				

The result is that our last available rooms on Tuesday and Wednesday night go to a four-night stay, and the revenue benefit over the Open Pricing case grows to 37%. From these simple examples, it is easy to see the benefit of utilizing and optimizing inventory controls to save products for your most valuable customers. The results are consistent with Marriott's market tests as described in The Book.

Core Concept of Revenue Management #4 still drives revenue gains in a world of dynamic pricing and rate plan differentials.

Why Optimized Inventory Controls over Open Pricing:

Greater Profit with a Better Mix

The examples above are focused solely on revenue, but optimizing inventory controls across stay patterns has an even greater impact on profit. First off, longer lengths-of-stay are generally more profitable than shorter lengths-of-stay. This is due to three factors:

First, the costs of turning the room are generally lower for longer lengths-of-stay. On average there is likely to be less housekeeping cost during the course of a stay than in turning the room for a new guest. So, even if we were able to replace a three or four night stay with one night stays on the other nights, the cost of the three or four night stay is likely to be lower than multiple shorter stays, making the longer stay more profitable.

Second, having a guest in the hotel on a shoulder night provides that guest with opportunity to spend money on food, beverage, and other ancillary revenue sources on that shoulder night. According to STR, for the average hotel, “32% of revenues come from areas such as food & beverage, parking, spas, etc.”¹⁴ This ancillary revenue is profitable, and any profit derived from it on shoulder nights are incremental. Conversely, there is no opportunity to drive additional profit if the hotel room sits empty on the shoulder night.

Finally, advanced inventory optimization algorithms in modern RMSs (like N2Pricing) account for the channel costs, commissions or other costs associated with any given rate plans in determining availability. So, wherever contracts permit, the RMS will yield out higher cost channels or offers before their lower cost counterparts.

Open Pricing misses this opportunity to yield rates and channels based on profitability. Per Duetto, “An important step in an Open Pricing strategy is understanding how to keep promotions and channels available without closing them off as demand increases.”¹⁵ But leaving everything open means taking bookings as they come, rather than proactively yielding out lower profit bookings in favor of more profitable bookings. This is particularly true on high demand nights when capacity is limited.

Maximizing profit is critical for hotel owners. After all, as the adage says: you can’t take revenue to the bank – only profit. Owners want to maximize profits, and brands have become more focused on profit over the years as well. Hotel Revenue Managers have long focused on optimizing a hotel’s business mix, but the best ones seek to drive the most profitable business mix. Deploying an Optimized Inventory Controls strategy with the right RM system will do the same thing.

[14] STR Data Insights Blog, “The role of total revenue management in a hotel profitability strategy,” August 28, 2024

[15] Duetto Content Team, Drive profits with an Open Pricing revenue management strategy, September 12, 2024

Why Optimized Inventory Controls over Open Pricing: Better Customer Experience

Advocates of Open Pricing would suggest that the ATLieN Hotel example above is not a fair comparison, because open pricing can push the one-night rate so high that it would equal the revenue of a three or four-night stay. Setting aside the fact that that one-night stay would still be less profitable, let's focus on the customer experience impact of publishing extremely high rates.

Our belief is that offering exorbitant rates for a one-night stay delivers a worse customer experience than simply communicating that there is no availability for a one-night stay. Let's assume that our ATLieN hotel delivers an excellent guest experience for its typical price point of around \$200. Hotel guests are used to paying more during peak periods of demand, but receiving the \$200 experience while being charged \$600-\$800 per night may feel unfair. For some, seeing such a high hotel price online may suggest price gouging.

Years ago, I consulted for Best Buy. Continually raising prices on ancillary items like HDMI cables had slowly eroded traffic to stores, and the company was in dire straits. Their new CEO, Hubert Joly, implemented a new Price Match Guarantee to change perception of their prices. As we worked with Joly's team on making prices more competitive, the team introduced me to the phrase "insult pricing."

They described "insult pricing" as a price so high that it felt unfair to the customer. Perhaps they paid it, and perhaps they didn't, but either way, they decided not to shop Best Buy again.

A 2007 article in Supermarket News used the phrase "insult pricing" to describe the situation where pricing is so high that "a certain breaking point is reached, consumers may leave the store to buy a few items elsewhere, and they may not return in the future."¹⁶

Hotels that try to maximize revenue on high demand nights by charging ultra-high rates, rather than using inventory controls to save inventory for longer lengths-of-stay will likely be flirting with "insult pricing." They likely would not feel the consequences immediately, but they would be creating long-term risk to their demand, just like Best Buy.

A quote from hospitality titan Bill Marriott sums it up best:

"You've got to do everything you can to be fair to the customer. As long as they know you're being fair, you'll be fine. They'll come back, and¹⁷they'll feel good about you."

[16] David Merrefield, "Right Pricing, Is it Science or Art?," *Supermarket News*, March 19, 2007

[17] Aeronomics Incorporated, "Customer Considerations," *Scorecard*, First Quarter, 1995, p.7

Conclusion

For many hoteliers, the best way to unlock future revenue and profit opportunities is to harken back to the origins of hotel Revenue Management. The Book established Core Concept #4 of Revenue Management – saving your products for your most valuable customers – decades ago, but it remains as relevant now as it was then.

Open Pricing strategies rightfully seek more flexibility for setting BAR rates and discounts off BAR. But leaving everything open all of the time leaves money on the table, which is contrary to the fundamental purpose of Revenue Management.

The Optimized Inventory Controls strategy is a longstanding hotel RM practice that yields out lower value stays or less profitable channels on high demand nights. Optimized Inventory Controls ensure that hotels maximize revenue with longer lengths-of-stay, drive a more profitable business mix, and protect the guest experience from the risks of “insult pricing.” Due to the complexity of overlapping LOS patterns across various staynights, the right RMS is required to properly execute this strategy.

It can't be done with simple business rules.



That's why we designed our N2Pricing RMS to provide both (1) maximum flexibility in pricing BAR rates and rate plan and room type differentials and (2) a sophisticated inventory optimization algorithm that automatically yields across every LOS pattern in the future booking horizon.

For many hotels, there is an incredible opportunity to go back to the future by moving from Open Pricing to an Optimized Inventory Controls strategy. Blending timeless principles with modern technology will deliver sustainable revenue and profit growth and enduring customer loyalty.

About the Author



Dax Cross

Dax Cross co-founded Revenue Analytics in 2005, and now operates as a Founder & Advisor. In this role, Dax manages relationships with key clients and partners, works with our team on product innovation, and serves as an internal and external subject matter expert on Pricing & Revenue Management.