

EUROPEAN INSTITUTE OF INNOVATION, ENTREPRENEURSHIP AND TECHNOLOGY

MODULE

Operations Management in Hospitality

Combined Hotel Revenue Management Tools: Channel Management and Optimal Room-Rate Allocation

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1. The Concept of Combined Hotel Revenue Management Tools

Revenue management (RM) is often reduced, in popular discussion, to raising or lowering room rates in response to demand. Practitioners describe it more broadly as a way of doing business in which every department focuses on driving the total profitability of the organisation, not a single computer system or statistical technique (Haley & Inge, 2004). Combined RM tools reflect this broader view: rather than treating pricing and inventory or distribution decisions as separate problems solved one after another, modern hotel RM treats them as a single, joint decision, because revenue depends simultaneously on what a hotel charges and on how much capacity it makes available, to which segment, through which channel, at that price (Candela Garza, 2017).

This combined view is reinforced by the practical toolkit hotels use. Korzh and Onyshchuk (2018) describe modern hotel RM as resting on a set of complementary analytical tools, including rate shopper software, online travel agency (OTA) analytics, business intelligence platforms, and dedicated revenue management systems (RMS), each covering a different piece of the pricing-and-distribution puzzle. No single tool optimises revenue alone; it is the coordinated use of tools addressing price, channel, and capacity together that captures revenue an isolated tool would leave on the table.

2. Channel Management's Influence on Price and Quantity

Channel management is the practice of controlling how room inventory is distributed across a hotel's sales channels, its own website, global distribution systems (GDS), and third-party OTAs such as Booking.com or Expedia, each carrying a different cost of distribution and attracting a different customer profile (Haley & Inge, 2004). Because commission structures differ sharply by channel, often 15 to 20 percent on merchant-model OTAs versus little or none on direct bookings, the same headline rate produces very different net revenue depending on where the room sells. A modern RMS accounts for this by optimising net profit by channel and automatically updating both the rate and the number of rooms released to each channel, rather than adjusting price alone (Haley & Inge, 2004).

This is where channel management becomes a joint price-and-quantity decision. Rate shopper tools track competitor pricing within specific channels and flag rate parity violations, prompting managers to adjust the rate on a channel while simultaneously deciding how many rooms to expose

there (Korzh & Onyshchuk, 2018). OTA analytics tools add a further layer, showing channel-specific demand trends that inform how much inventory to allocate to a channel at a given price point (Korzh & Onyshchuk, 2018). In each case, the decision is not simply "what rate to charge" but "what rate, on which channel, for how many rooms", set together rather than in sequence.

3. Optimal Room-Rate Allocation's Influence on Price and Quantity

Optimal room-rate allocation extends the same logic to how capacity is divided across customer segments rather than channels. Candela Garza (2017) offers a clear technical illustration: a price-sensitive demand model predicts daily bookings expected from each market segment, and these predictions feed into a mixed integer linear program that optimises prices and capacity allocations at the same time, rather than solving the pricing problem first and the allocation problem second. This joint approach outperforms a sequential one because setting a price for a segment inherently determines how much capacity that segment will consume: a low price released too early can exhaust available rooms before a higher-paying segment arrives, while an overly high price can leave rooms unsold that a lower-paying segment would gladly have filled (Candela Garza, 2017).

The practical output is capacity protection: reserving a specific number of rooms for higher-rate segments even while lower-rate demand persists, and closing a discounted rate once a calculated reservation threshold is reached, even though rooms remain physically empty. This is fundamentally a quantity decision, but it only makes sense in light of the prices attached to each segment, which is precisely why price and quantity cannot be optimised independently (Candela Garza, 2017).

4. Practical Examples

Channel-shifting around a high-demand weekend. A hotel forecasts strong demand for its own website ahead of a busy weekend. Its RMS responds by reducing the number of rooms released to OTAs, the lower-net-profit channel once commission is deducted, while keeping the direct rate attractive to funnel bookings there, and raising the rate offered on any remaining OTA allocation to offset the commission cost of bookings that still come through that channel. Price and quantity move together: OTA rate rises while OTA room count falls, and the reverse holds for the direct channel (Haley & Inge, 2004).

Rate protection during a conference period. Ahead of a large local conference, early-booking leisure guests would, if left unmanaged, consume the hotel's entire discounted room allocation before business travellers book closer to the date at a higher rate. The RM optimisation model protects a block of rooms at the higher business tariff, closing the discounted rate once a calculated number of rooms has been sold, even though physical capacity remains. The top rate stays open (a price decision) precisely because a room quantity has been reserved for it (a quantity decision) (Candela Garza, 2017).

Rate-parity response via rate shopper. A rate shopper tool detects that a competitor has quietly dropped its price on a specific OTA channel. The revenue manager responds by adjusting both the rate offered on that same channel and the number of rooms allocated to it, correcting the competitive position on that channel specifically without disturbing rates elsewhere and without violating rate-parity agreements with other partners (Korzh & Onyshchuk, 2018).

Conclusion

Combined revenue management tools exist because, in a fixed-capacity, multi-channel hotel business, price and quantity decisions are not separable. The rate offered on a given channel or segment determines how much of a hotel's limited inventory gets consumed there, which constrains what remains available for other channels and segments at other prices. Channel management and optimal room-rate allocation are two expressions of the same principle: treating pricing and inventory control as one integrated decision, supported by rate shopper, OTA analytics, and RMS optimisation tools, is what allows hotels to capture the incremental revenue gains, often cited at 3 to 6 percent or more, that isolated, sequential pricing decisions leave on the table (Haley & Inge, 2004).

References

- Candela Garza, E. (2017). *Revenue optimization for a hotel property with different market segments: Demand prediction, price selection and capacity allocation* [Master's thesis, Massachusetts Institute of Technology]. MIT Sloan School of Management.
- Haley, M., & Inge, J. (2004). Hotel revenue management: It really should be called profit management. *Hospitality Upgrade*, Fall 2004, 6–14.
- Korzh, N., & Onyshchuk, N. (2018). Selection of the optimal set of revenue management tools in hotels. *Technology Audit and Production Reserves*, 1/4(39), 15–22.