

EUROPEAN INSTITUTE OF INNOVATION, ENTREPRENEURSHIP AND TECHNOLOGY

MODULE

Operations Management in Hospitality

Why Price Elasticity Matters for Hotel Revenue Management Systems

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1. Why Price Elasticity Matters for Hotel Revenue Management Systems

Price elasticity of demand measures how sensitive room bookings are to a change in price: elastic demand falls sharply when price rises, while inelastic demand barely moves. Revenue management (RM) systems are built directly on this idea, since their core purpose is to segment guests by purchasing behaviour and price sensitivity and then price accordingly, rather than charging a single rate to everyone (Donaghy, McMahon, & McDowell, 1995). Without an understanding of elasticity, an RM system cannot tell whether raising a rate will simply capture more revenue from guests who will pay regardless, or drive away bookings that a lower price would have secured.

The relationship is well documented empirically. Research reviewed by Koshy and Bhatta (2024) confirms that as hotel room prices rise, sales generally fall, and as prices fall, sales rise, a direct demonstration of elastic demand in online hotel booking. However, this sensitivity is not constant: it varies sharply by segment, timing, and circumstance, which is precisely why RM systems must model it rather than assume a single elasticity applies everywhere.

During high-demand periods, demand often becomes inelastic. Koshy and Bhatta (2024) cite evidence that hotel prices during Chinese New Year rose by as much as 159.9% compared with the low season in May without a corresponding loss in occupancy, since travellers had few alternatives and strong motivation to book regardless of rate. This is what researchers describe as pricing power: the ability to raise rates despite constrained supply because demand does not retreat proportionally (Koshy & Bhatta, 2024). An RM system that recognises this can "protect rate" during such periods, holding prices firm rather than discounting rooms that would have sold anyway (Bardi, 2003).

Conversely, other segments are highly elastic. Business travellers, who tend to book close to their travel date, are relatively price-insensitive, whereas leisure and price-sensitive guests are more likely to wait for last-minute deals and respond strongly to discounts (Koshy & Bhatta, 2024). Loyal customers of trusted, branded hotels also tend to be less price-sensitive than guests of unfamiliar properties, which is why branded chains typically show smaller seasonal price swings than independent, lower-scale hotels that must discount more aggressively to fill rooms in the off-season (Koshy & Bhatta, 2024).

For an RM system, correctly estimating elasticity by segment and period is what determines whether the system should protect rate or protect occupancy on a given date, a decision that directly shapes RevPAR performance (Bardi, 2003). Overestimating elasticity leads to unnecessary discounting during periods when guests would have paid full rate; underestimating it leads to empty rooms during periods when a lower price would have converted price-sensitive demand into revenue. Price elasticity is therefore not a peripheral concept but the analytical foundation that allows revenue management to price differently across time and segment rather than uniformly, which is the entire basis on which RM improves on flat, one-size-fits-all pricing.

References

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