Lecture 6

Yield Management

Defining Yield Management

Yield management is a tool to maximize yield (revenue, and ultimately profit) based on a hotel's performance. Most of us consider the average daily rate (ADR) and occupancy percentages as indicators of how successful a hotel is. Whilst they certainly provide us with the basic tools, we can take these figures a step further by utilizing them – together with a number of other formulae – to plan our pricing and booking strategies.

Yield management seeks to maximize revenue by controlling forecast information in three ways:

❶ capacity management

Capacity management involves various methods of controlling and limiting room supply. In some cases a hotel may well choose to accept more bookings than it can actually accommodate. In such instances a hotel would be making selective overbooking by balancing the risks of overselling guest rooms against the potential loss of revenue arising from room spoilage (rooms going unoccupied after the hotel stopped taking reservations for a given date).

Other forms of capacity management include determining how may walk-ins to accept on the day of departure, bearing in mind projected cancellations, no-shows and early departures.

❷ discount allocation

Yield management will attempt to get the right sales mix. On most nights, it will be next to impossible for a hotel to sell at rack rate. A hotel must therefore have a discounting strategy which will allow it to protect enough rooms at the best rates to satisfy the projected demand for rooms at that rate, whilst at the same time filling rooms that would have otherwise remained unsold.

Limiting discounts also has the objective of encouraging upselling.

❸ duration control

Duration control places time constraints on accepting reservations in order to protect sufficient space for multi-day requests. Under yield management one may for instance refuse a one-night stay even though space is available for that night, on the basis that taking such a reservation will block occupancy on adjacent days.

Measuring Yield

In a previous lecture, by comparing actual room revenue against potential revenue, we came up with a yield statistic percentage. We will now take this step forward by looking additional yield management formulae.

We will illustrate the new formulae by using a particular scenario: *Tower Hotel has 300 guest rooms with an average room rate of Lm35. It is currently operating at 70% average occupancy. The hotel has 200 standard double bedrooms, and 100 double deluxe rooms. At rack rate, the standard rooms sell at Lm 40.00 at single occupancy and Lm 50.00 at double occupancy, whilst the deluxe rooms sell at Lm 50.00 at single occupancy and Lm 60.00 at double occupancy.*

Formula 1: Potential Average Single Rate

The hotel has varied its single rate by room type, so we need to calculate the potential average single rate:

Room type	Number of rooms	Single Rack rate	Revenue at 100% occupancy
Standard	200	Lm 40	Lm8,000
Deluxe	100	Lm 50	Lm 5,000
	300		Lm 13,000

$$\text{Potential Average Single Rate} = \frac{\text{Single Room Revenues at Rack Rate}}{\text{Number of Rooms Sold as Singles}}$$

$$= \frac{\text{Lm } 13{,}000}{300}$$

$$= \text{Lm } 43.33$$

Formula 2: Potential Average Double Rate

Since we also have varied rates by room type the potential average double rate must be calculated:

Room type	Number of rooms	Double Rack rate	Revenue at 100% occupancy
Standard	200	Lm 50	Lm10,000
Deluxe	100	Lm 60	Lm 6,000
	300		Lm 16,000

$$\text{Potential Average Double Rate} = \frac{\text{Double Revenues at Rack Rate}}{\text{Number of Rooms Sold as Doubles}}$$

$$= \frac{\text{Lm } 16{,}000}{300}$$

$$= \text{Lm } 53.33$$

Formula 3: Multiple Occupancy Percentage

This is the proportion of a hotel's rooms that are occupied by more than one person. This percentage indicates sales mix and helps balance room rates. If 168 rooms from the total of 210 rooms sold (70% of 300 rooms) are sold at double occupancy then the computation is as follows:

$$\text{Multiple Occupancy Percentage} = \frac{168}{210}$$

$$= 80\%$$

Formula 4: Rate Spread

The determination of a room rate spread among various room types can be essential to the use of yield decisions in targeting a hotel's specific market. The mathematical difference between the hotel's average single rate (Formula 1) and potential average double rate (Formula 2) is known as the rate spread.

$$\text{Rate Spread} = \text{Potential Average Double Rate} - \text{Potential Average Single Rate}$$

= Lm 53.33 – Lm 43.33
= Lm 10

Formula 5: Potential Average Rate
This is a collective statistic that effectively combines the potential average rates, multiple occupancy percentage, and rate spread.

$$\text{Potential Average Rate} = \left(\text{Multiple Occupancy Percentage} \times \text{Rate Spread}\right) + \text{Potential Average Single Rate}$$

= (0.8 x Lm10) + Lm 43.33

= Lm 51.33

Formula 6: Room Rate Achievement Factor
The percentage of the rack rate a hotel actually receives is contained in the hotel's achievement factor, also referred to as the rate potential percentage. This factor is best computed using yield management software which will use the weighted average of the rack rates of the rooms actually sold. For our purposes the non-weighted computation will suffice:

$$\text{Achievement factor} = \frac{\text{Actual Average Rate}}{\text{Potential Average Rate}}$$

$$= \frac{\text{Lm 35}}{\text{Lm 51.33}}$$

= 68%

Formula 7: Yield Statistic
This is perhaps the most important element in yield management. We have already seen how to express and calculate this statistic. Here we will use the following computation:

Yield Statistic = Occupancy percentage x Achievement factor
= 0.7 x 0.68
= 0.476
= 48%

Formula 8: Identical Yields

This is the point where we can ask "What if …?" questions to determine how discounting will affect our revenue. If we were to decrease or increase our rate, what occupancy percentage would we need to achieve to produce the same yield? Let's suppose that our hotel wants to decrease its rate by Lm 2.00 to Lm 33.00.

$$\text{Identical Yield Percentage} = \text{Current Occupancy Percentage} \times \frac{\text{Current rate}}{\text{Proposed rate}}$$

$$= 70\% \times (\text{Lm } 35 \div \text{Lm } 33)$$

$$= 0.742 \text{ or } 74\%$$

To achieve the same yield the hotel must have an occupancy of 74%.

Formula 9: Equivalent Occupancy

There is however one major flaw with Formula 8. It does not consider operating costs. When a hotel sells a room, it will incur variable costs to service that room (eg. Housekeeping supplies). This is called the marginal cost or the cost per occupied room. The contribution margin is that portion of the room rate that is left over after the marginal cost of providing that room has been subtracted. Let us assume that our marginal cost is Lm 4.00. To find the equivalent occupancy we have the following formula:

$$\text{Equivalent Occupancy} = \text{Current Occupancy Percentage} \times \frac{\text{Current contribution margin}}{\text{New contribution margin}}$$

$$= 70\% \times \frac{\text{Lm } 35.00 - \text{Lm } 4.00}{\text{Lm } 33.00 - \text{Lm } 4.00}$$

$$= 0.748 \text{ or } 75\%$$

A discount grid (refer to Discount_Grid.xls) can help management evaluate room rate discounting strategies.

Discount Grid

Rack rate Lm51.33

Marginal cost Lm4

Current Occupancy — Equivalent Occupancy Percent required to maintain profitability if rates are discounted.

	5%	10%	15%	20%	25%	30%	35%
100%	105.7%	112.2%	119.4%	127.7%	137.2%	148.2%	161.2%
95%	100.4%	106.6%	113.5%	121.3%	130.3%	140.8%	153.1%
90%	95.2%	100.9%	107.5%	114.9%	123.5%	133.4%	145.1%
85%	89.9%	95.3%	101.5%	108.5%	116.6%	126.0%	137.0%
80%	84.6%	89.7%	95.5%	102.2%	109.8%	118.6%	128.9%
75%	79.3%	84.1%	89.6%	95.8%	102.9%	111.2%	120.9%
70%	74.0%	78.5%	83.6%	89.4%	96.0%	103.8%	112.8%
65%	68.7%	72.9%	77.6%	83.0%	89.2%	96.3%	104.8%
60%	63.4%	67.3%	71.7%	76.6%	82.3%	88.9%	96.7%
55%	58.2%	61.7%	65.7%	70.2%	75.5%	81.5%	88.6%
50%	52.9%	56.1%	59.7%	63.8%	68.6%	74.1%	80.6%
45%	47.6%	50.5%	53.7%	57.5%	61.7%	66.7%	72.5%
40%	42.3%	44.9%	47.8%	51.1%	54.9%	59.3%	64.5%
35%	37.0%	39.3%	41.8%	44.7%	48.0%	51.9%	56.4%
30%	31.7%	33.6%	35.8%	38.3%	41.2%	44.5%	48.4%
25%	26.4%	28.0%	29.9%	31.9%	34.3%	37.1%	40.3%
20%	21.1%	22.4%	23.9%	25.5%	27.4%	29.6%	32.2%
15%	15.9%	16.8%	17.9%	19.2%	20.6%	22.2%	24.2%

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