

Effective room forecasting is key to the hotel's future performance



Serge Chamelian, managing partner, h-hotelier, believes hotel forecasting is the ultimate resource for anticipating the future performance of hotel's key metrics - occupancy ADR (Average Daily Rate) and RevPAR (Revenue Per Available Room)

Forecasting future demand in the lodging industry is crucial because it leads to efficient planning and decision making to all the departments, and most importantly it is one of the drivers of pricing.

Accurate forecasting is one of the ways to increase the predictability of duration of use. In hotels, duration is defined as length of stay; in airlines, as time in flight (known as origin-destination); in restaurant, as length of meal; and in rental cars, as length of keep. To help increase the predictability of duration, hotels forecast demand by length of stay for different rate categories; airlines try to forecast demand by origin-destination city pairs; restaurants forecast demand by length of meal depending on the number of persons per table; and rental-car companies predict demand by rate category and length of keep.

The accuracy of the forecast is essential because the forecast is the main driver of the pricing/room allocation decisions; inaccurate forecasts or predictions will diminish the hotel's revenues and profit margin. In fact, a 10% improvement in forecasting accuracy translates into a 1.5 to 3% increase in revenue generated from a revenue management system. This will probably impact the net income in a much larger way, due to the small margins existing in the hotel industry. Therefore, in addressing the importance of forecasts, one can state that forecasting is the most important driver of any revenue management optimization approach.

Figure 1: Occupancy forecast and reservation on hand

Forecasting remains the job of the revenue manager and is performed in different ways; a few hotels utilize the manual excel-based approach to forecasting, others implement automated systems called Revenue Management systems. Many hotels decide to invest in such systems considering that inaccurate forecasting may lead to incorrect decisions and severely impact revenues and profit margins. Forecasting may be the heart of any hotel operations. Experienced revenue managers produce forecasts/predictions for one year and more, but this task may become challenging if it is required to be completed daily and broken down by segments, source of business or channels; in this case accurate hotel data may be an issue.

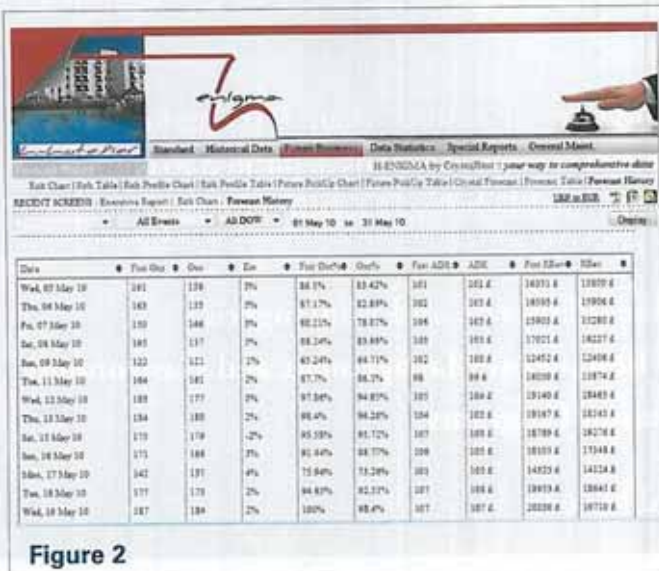


Figure 2

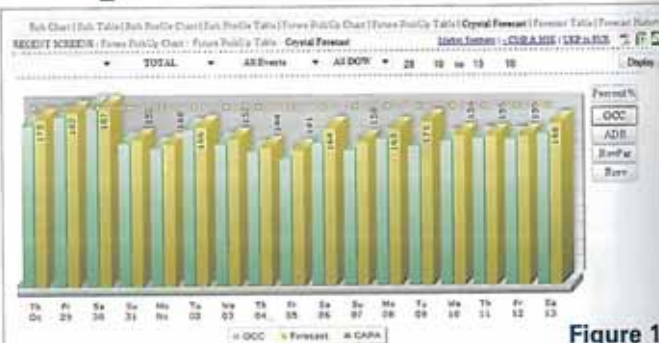


Figure 1

Types of forecasting may be divided into three categories

- Occupancy Forecast** Revenue manager predicts the occupancy level.
- Demand Forecast** Revenue manager produces the unconstrained demand for the hotel (hotel occupancy level if no restrictions on capacity and price is applied).
- Revenue Forecast** Revenue manager estimates the revenue generated.

The main challenges for an accurate forecast consist of predicting the exact figures for the no-show rooms, extended stay-over rooms, early departure rooms and walk-ins guests. To assist the forecast, these data must be historicized constantly by DOW (day of week), season and event type.

Hotels adopt different methods/approaches to forecast demand. These can be grouped into two categories: historical booking models and advanced booking models. Historical booking models consider only the arrivals or the occupancy time series, and apply time series models on these. No use is made of the reservations data. The advanced booking approach, on the other hand, makes use of the reservations data, and utilizes the concept of "pick-up". For instance, most major hotel chains use linear-programming-based models that require detailed forecasts by day of arrival, length of stay, and rate category.

Hence, forecasting is estimated as such: a hypothetical automated system scans historical bookings, occupancy patterns, internal and external events, and reservation and rates information and fits quantitative forecasting models to the data. Using the fitted models, the revenue management system arrives at predictions, which are then used as an input in making rate and allocation decisions.

Nowadays, forecasting has taken a different turn by adding new variables/data to the above mentioned ones such as: prices of the hotel's competitive set, city demand, event automated entry, and airline/airport passenger's future booking pace. That is, the optimization algorithms recommend rates and allocation based on the predicted values of the forecasted variables. Moreover, room occupancy is not anymore the only key metric forecasted by hotels, competition, ADR and RevPAR by market segment, source of business, and even channels of distributions are also considered.

For instance, a new system is identified using this novel approach: Figure 2: Forecast error %

This forecasting tool adjusts future predictions by constantly learning from previous practices; forecasting algorithm combines real/constrained demand achieved versus forecasts for specific previous dates and benchmarks its previous inputs used in making rate decisions with actual results. Thus, the accuracy of this forecasting tool boosts the hotel's revenues and profit margin.

Forecasting in the lodging industry has been relatively important to depend on the nature of industry and operational characteristics and difficulties. This importance is not only related to wide demand fluctuations, but also the efforts to increase occupancy rates, ADR and RevPar. The forecast is the most important driver of any revenue-management optimization approach. Hotels should forecast at a detailed level if the true benefits available from revenue optimization are to be achieved. ■

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