# 🏨 Hospitality Revenue Analysis Dashboard

A data-driven business intelligence dashboard to help AtliQ Grands reclaim their market position in the Indian hospitality industry by optimizing pricing, understanding customer behavior, and identifying revenue leakages.

## 📖 Project Background: The Business Story

### 📌 Problem Statement

AtliQ Grands, a prestigious chain of five-star hotels across India, has been facing declining revenue and market share in both the luxury and business segments. With increased competition and inefficient decision-making, their management identified the need for Business Intelligence to guide their strategic initiatives.  
  
However, lacking an internal analytics team, they outsourced this critical task to a data service provider.

### 🎯 Your Task as a Data Analyst

This project is part of the Codebasics Resume Project Challenge – Hospitality Domain.  
Dataset and project brief are sourced from the same platform.  
  
You were hired to:  
1. Develop key metrics that reflect the performance of the hotel properties.  
2. Build an insightful Power BI dashboard based on a stakeholder-approved mock-up.  
3. Derive additional insights beyond the metric list to support business decisions and competitive advantage.

## 📁 Data Model Overview

Data consists of 5 tables structured in a star schema:

|  |  |  |
| --- | --- | --- |
| Table Name | Type | Description |
| dim\_date | Dimension | Dates, day types, week numbers for May–July |
| dim\_hotels | Dimension | Hotel properties including category, city |
| dim\_rooms | Dimension | Room types and room class |
| fact\_aggregated\_bookings | Fact | Room-level booking summary by date and hotel |
| fact\_bookings | Fact | Individual booking details including status, platform, revenue |

## 📊 Metrics & KPIs

25+ DAX measures were created to evaluate:  
- Revenue, RevPAR, ADR  
- Occupancy %, Capacity, Realisation %  
- Cancellations, No Show rate  
- Week-over-Week trends  
- Platform & Room Class Contributions

## 📐 DAX Measures Used

### 💰 Revenue & Booking Metrics

• Revenue: Sum of all revenue collected from successful bookings.

• Total Bookings: Count of all booking transactions recorded.

• Total Capacity: Total number of rooms available across all hotels.

• Total Successful Bookings: Total rooms that were actually booked and utilized.

• Occupancy %: (Total Successful Bookings ÷ Total Capacity) × 100

• Average Rating: Average rating score given by customers after stay.

• No. of Days in Data: Total number of days between first and last booking (May–July = 92 days).

### ❌ Cancellation & No Show Metrics

• Total Cancelled Bookings: Number of bookings with status marked as 'Cancelled'.

• Cancellation %: (Cancelled Bookings ÷ Total Bookings) × 100

• Total No-Show Bookings: Number of bookings where customer neither cancelled nor checked in.

• No-Show Rate %: (No-Show Bookings ÷ Total Bookings) × 100

• Total Checked Out: Number of customers who successfully completed their stay.

• Realisation %: 100% – (Cancellation % + No-Show Rate %)

### 📊 Booking Contribution Metrics

• Booking % by Platform: Booking share of each platform out of total bookings.

• Booking % by Room Class: Room class share out of total rooms booked.

### 💵 Pricing Metrics

• ADR (Average Daily Rate): Revenue ÷ Total Bookings

• RevPAR (Revenue Per Available Room): Revenue ÷ Total Room Capacity

• DBRN (Daily Booked Room Nights): Total Bookings ÷ No. of Days

• DSRN (Daily Sellable Room Nights): Total Room Capacity ÷ No. of Days

• DURN (Daily Utilized Room Nights): Checked Out Bookings ÷ No. of Days

### 📈 Week-over-Week (WoW) Performance Metrics

• Revenue WoW Change %: ((Current Week Revenue – Previous Week Revenue) ÷ Previous Week Revenue) × 100

• Occupancy WoW Change %: ((Current Week Occupancy – Previous Week Occupancy) ÷ Previous Week Occupancy) × 100

• ADR WoW Change %: ((Current Week ADR – Previous Week ADR) ÷ Previous Week ADR) × 100

• RevPAR WoW Change %: ((Current Week RevPAR – Previous Week RevPAR) ÷ Previous Week RevPAR) × 100

• Realisation WoW Change %: ((Current Week Realisation % – Previous Week Realisation %) ÷ Previous Week Realisation %) × 100

• DSRN WoW Change %: ((Current Week DSRN – Previous Week DSRN) ÷ Previous Week DSRN) × 100

## 🔍 Insights & Recommendations

### 📆 Static Pricing Between Weekdays & Weekends

ADR and Realisation % are nearly equal for weekdays and weekends. Dynamic pricing can help monetize high-demand weekends more effectively.

### 🛡️ Price Shielding via Private Offers

Visible public discounts are vulnerable to scraping by OTA bots. Offer hidden coupons and loyalty-based pricing to avoid exposing strategy to competitors.

### 💸 Luxury Drives Revenue, Not Volume

62% of revenue comes from Luxury hotels despite fewer properties. Upsell from Business to Luxury using package deals or bundled experiences.

### ❌ Cancellations & No-Shows Are Platform-Specific

Platforms like Tripster show lower Realisation %, indicating higher booking drop-offs. Optimize OTA partnerships or enforce stricter cancellation policies for certain platforms.

### 🏆 Mumbai & Hyderabad Are Top Performers

Properties in these cities consistently outperform in RevPAR and Occupancy. Use them as benchmark properties to replicate success across the chain.