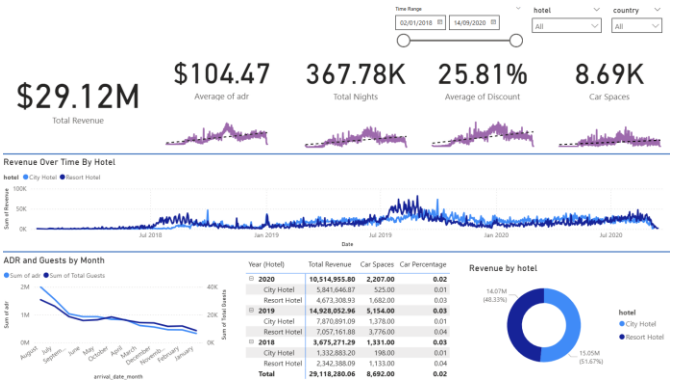
Hotels Project – Report / Almog Miron

In this project, I analyzed a hotels dataset containing information from **two hotels** spanning the years **2018–2020**.
The main goal was to address three core questions:

1. **Is the hotels' revenue growing year over year?**
2. **Should we increase the parking lot size?**
3. **What trends can we observe in Average Daily Rate (ADR) and guest counts to explore seasonality?**

The analysis was conducted using SQL and in **Power BI**, and the .pbix file is included in this repository. Example of the file:



Data & Revenue Calculation

To calculate **total revenue**, I used the following formula for each booking:

Total Nights = stays_in_weekend_nights + stays_in_week_nights

Revenue = Total Nights × ADR × (1 - Discount)

- **ADR (Average Daily Rate)** = price per room per night.
- Multiplying by **total nights** ensures we account for the full stay duration.
- Multiplying by **(1 - Discount)** adjusts for any price reductions.

This method accurately reflects the actual revenue generated, accounting for both the length of stay and any discounts applied.

1. Revenue Growth Analysis

From the aggregated results:

- **2018 → 2019**: Significant **increase** in total revenue for both hotels.
- **2019 → 2020**: Noticeable **decline** in total revenue.

The sharp drop in 2020 aligns with the onset of the **COVID-19 pandemic** (December 2019 onward), which heavily impacted travel and hospitality.
Conclusion: Revenue did not grow consistently over the period; 2019 was the peak year.

2. Parking Lot Demand

Using the same dataset, I examined:

- **Total number of cars requested**
- **Percentage of bookings requiring parking** for each year

Findings:

- 2018 → 2019: Increase in both total cars and bookings with parking requests.
- 2019 → 2020: Sharp decline in both metrics.
- **Percentage of bookings requiring parking** remained **stable** (~3%) across all years.

Conclusion: Parking demand grows when bookings grow, but the share of guests needing parking is steady.
Recommendation: Unless the hotel regularly operates at full parking capacity, a major parking lot expansion is not justified. Instead, focus on **seasonal peak management**.

3. Seasonality in ADR & Guest Counts

I plotted **Average Daily Rate** and **Average Guests per Booking** (adults + children + babies) by **month**:

- **Summer (July–August):**
    - **Highest ADR**
    - **Most guests**
- **Winter (November–February):**
    - **Lowest ADR**
    - **Fewest guests**

Conclusion: Clear **seasonality pattern** — high demand and pricing in summer, low in winter.
Recommendation: Target **off-season months** (Nov–Feb) with marketing campaigns or promotional rates to boost occupancy.

Report Structure

In the Power BI file, you will find:

- **Summary Analysis**—Key KPIs and year-over-year trends
- **Parking Analysis**— Demand by year and percentage trends
- **Seasonality Analysis**— Monthly ADR & guest patterns, with slicers for filtering

Key Insights

1. Revenue peaked in **2019** but dropped in 2020 due to external factors.
2. Parking demand is **proportional to booking volume**, not an independent growth trend.
3. Strong **seasonality** suggests targeted off-season campaigns could improve yearly performance.