



Hotel Revenue Dashboard Project Report

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Project Context

Open Heaven Hotels, a luxury hotel chain serving clients globally, began to notice inconsistencies in revenue tracking and reporting. Leadership expressed concern over limited visibility into lost revenue, channel performance, and factors impacting net profitability. These issues made it difficult to identify key opportunities to recover revenue and improve operational efficiency.

Project Objective

The leadership team requested an **interactive, management-ready dashboard** to:

1. **Track Gross, Net, and Lost Revenue**, comparing the current month to the previous month.
2. Monitor **Lost Revenue %** to highlight booking inefficiencies.
3. Provide visibility into:
 - Revenue distribution by **booking channel**
 - Impact of **payment methods** on revenue loss
 - **Geographic** patterns in net revenue

Power BI Analysis Process

To build a reliable and insight-driven dashboard that meets the hotel leadership's need for better revenue visibility, I followed the complete Power BI workflow—from preparing raw data to delivering actionable insights through interactive visuals.

1. Prepare Data

- **Data Source:** Sample hotel reservations datasets 2023 & 2024
 - Provided by [Data with Decision](#)
 - Contains 24 columns and 92,000 rows of hotel booking data
- Imported directly using the **Import** option
- Cleaned and transformed using **Power Query**:
 - Created reference queries for each year
 - Merged datasets into a single table: Reservations Data
- Applied transformations:
 - Fixed data types (e.g., dates, numbers, text)
 - Removed columns: Contact Phone, Guest ID
 - Standardized column naming conventions

2. Model Data

- Worked with a single 'Reservations Data' table
- Created a Calendar table using DAX, then:
 - Marked it as the official Date Table
 - Linked it to the main table using BookingDate = Date
 - Ensured proper relationship to support time-based analysis and filtering

3. Analyze Data with DAX

I created calculated measures using **DAX** to enable dynamic KPIs and time comparisons.

DAX Measures

Created DAX measures to calculate key performance indicators and gain insights into the data. DAX measures can be viewed here: [View DAX Measures](#)

I also created **dynamic chart titles and comparison captions** using DAX and SELECTEDVALUE() logic. All included in the DAX Folders.

4. Visualize Data

The final output was a **two-page interactive dashboard** with:

Page 1: Revenue Overview

- KPI Cards for Gross, Net, Lost Revenue, Lost Revenue Percentage (with dynamic titles)
- Net Revenue vs. Lost Revenue by:
 - **Booking Channel**
 - **Payment Method**
- Net Revenue vs Lost Revenue by Nationality (Map visual)
- Interactive filters for Month and Year

Page 2: Booking Trends

- KPI Cards for Total Bookings and Cancellations
- Matrix charts for monthly and weekly bookings
- Line Chart for monthly Cancellations vs. Check-ins
- Clustered Bar Chart for Cancellations and Check-ins over the years
- Clustered Bar Chart for bookings by Seasons

Navigation buttons between pages for a guided user experience


Key Insights

Revenue Insights: A Recovery in Progress

In 2023, Open Heaven Hotels experienced substantial revenue loss, with Lost Revenue accounting for 46.4% of total Gross Revenue (\$61.29M out of \$131.99M). However, by 2024, this figure dropped to 22.1%, with Lost Revenue decreasing to \$22.69M — a 63% reduction year-over-year.

This sharp decline in lost revenue suggests that operational or process changes are beginning to show positive results.

- Gross Revenue in 2024 reached \$102.7M, slightly lower than 2023, but Net Revenue grew to \$80.01M, up from \$70.7M in 2023.
- Across booking channels, Net and Lost Revenue were almost equal — pointing to potential friction or inefficiencies in the booking process.
- By payment method, cash performed best with a net revenue rate of 63.8%, followed closely by bank transfer (63.6%) and credit card (63.5%).
- From a geographic lens, Egypt stood out with the highest net revenue rate (65.7%), while Greece had the highest lost revenue percentage (37.9%) — possibly indicating market-specific issues.


 **Recommendation:** Prioritize deeper analysis into booking failures within key channels and geographies, especially Greece. A/B testing of simplified booking flows and payment options may reduce abandonment.


Booking Trends: Volume Down, Efficiency Up

While total bookings dropped from 49,000 in 2023 to 38,000 in 2024 (a 22.5% decrease), cancellations were reduced significantly from 24,000 to 9,000 (a 62.5% improvement). This signals a higher conversion and retention rate among booked guests.

- Total bookings over both years reached 92,000, with 35,000 cancellations overall.
- Top months for check-ins were June (5,312) and July (5,613), aligning with expected high travel seasons.
- Peak cancellation months were December (3,502) and November (3,425).
- Cancellations by season:
 - Autumn: 10,000

- Spring: 9,000
- Winter: 8,000
- Summer: 7,000

 **Recommendation:** Conduct further root cause analysis for peak cancellation periods (particularly Q4) and consider optimizing seasonal offers or improving communication during high-risk months.

 **Additional Recommendation:** Explore predictive analytics to identify cancellation risk early and target high-risk bookings with incentives or reminders.

Outcome

The dashboard enables Open Heaven Hotels leadership to:

- Clearly identify revenue loss sources
- Optimize booking channels and payment methods
- Improve marketing strategies using regional revenue patterns
- Take data-driven actions to boost booking conversions and reduce cancellations

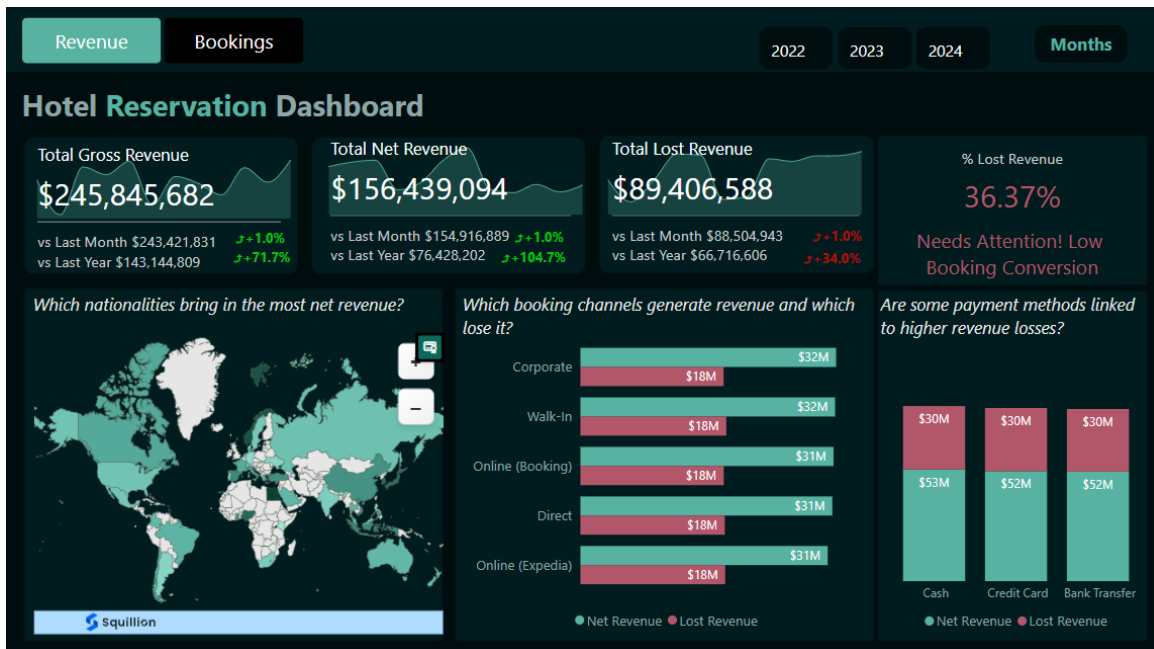


Figure 1 Revenue Overview Page

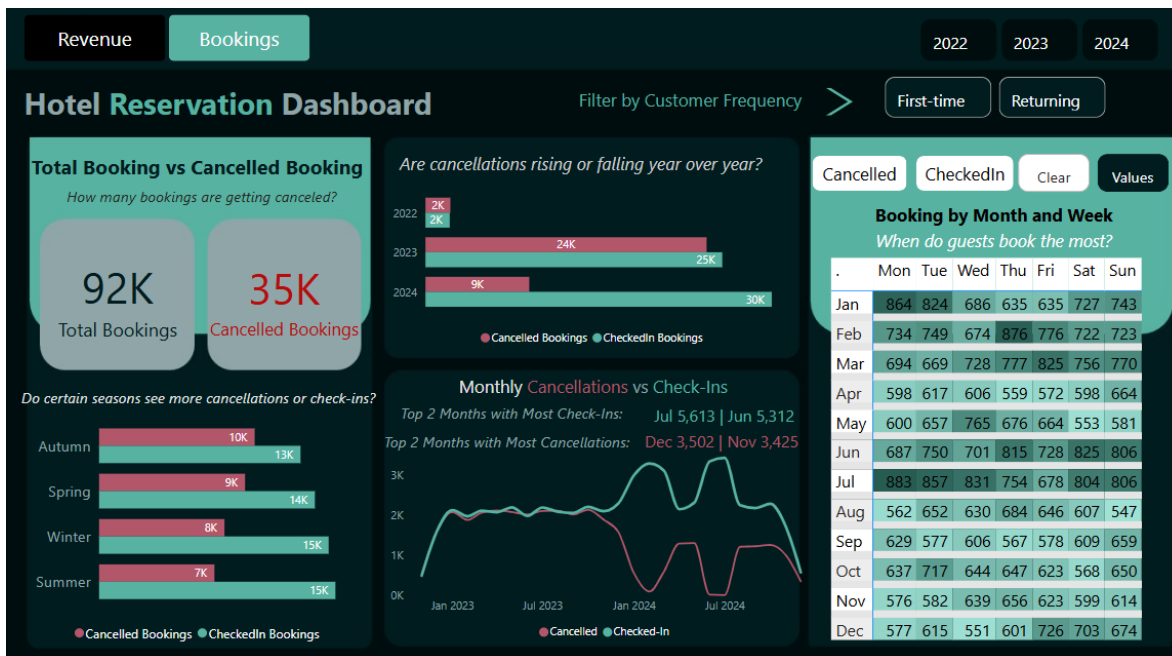


Figure 2 Booking Trends Page

Note: This project was completed using a sample dataset as part of a guided learning challenge. No actual client or proprietary data was used.

Credit: [Data With Decision](#) for the dataset and inspiration.

References

1. [Power BI Documentation](#)
2. [DAX Guide](#)