

Hotel Reservation Analysis for Platinum Oasis

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Background

Platinum Oasis, a premium hotel chain with a presence in metropolitan and tourist hubs, is renowned for its luxury accommodations, personalized services, and refined ambiance.

Catering to business travelers, vacationers, and corporate groups, the hotel offers tailored experiences through diverse room options, flexible meal plans, and premium amenities, including parking, special requests, and concierge services.



Problem Statement

Platinum Oasis is facing several business challenges:

High Cancellation Rate

- Frequent cancellations with unclear causes.
- Uncertainty about the impact of lead times, booking sources, and special requests.

Unclear Guest Preferences

- Difficulty identifying the most preferred room types and meal plans.
- Leads to inefficiencies in inventory and resource allocation.

Operational Inefficiencies

- Underutilized parking facilities with no optimization data.
- Special requests add complexity without insights into their frequency or operational impact.

Customer Retention

- Challenges in retaining repeat guests despite offering premium services.
- Lack of understanding of behavioral differences between new and returning customers.

Objectives

01

Identify Trends

Understand customer behavior and booking patterns

02

Analyze Cancellations

Explore factors contributing to cancellations and recommend mitigation strategies.

03

Optimize Operations

Gain insights into room type preferences, parking space utilization, and meal plans.

04

Enhance Guest Retention

Compare preferences of new and returning guests to improve loyalty.

Dataset Details

- ❖ Kaggle source: [hotel-booking](#)
- ❖ Contains **19 columns** with information on hotel reservations.
- ❖ Key columns:
 - ❖ **lead_time**: Number of days between booking and arrival.
 - ❖ **status**: Indicates whether a booking was canceled or not.
 - ❖ **market_segment**: Source of bookings, such as Online, Offline, Or Corporate.
 - ❖ **room_type**: Type of room reserved.
 - ❖ **special_requests**: Number of special requests made by customers (e.g. high floor, view from the room, etc).
 - ❖ **repeated_guest**: Whether the guest is a returning customer (1) or a new one (0).

Solution

Data Visualization

Develop an interactive Power BI dashboard to address the challenges faced by Platinum Oasis.



Key features

- Dynamic visualization of booking trends and cancellation patterns.
- Operational metrics for room type preferences, meal plans, and parking utilization.
- Insights into guest behavior to enhance retention strategies.

Insights at a Glance

Exploring key insights through dynamic
visualizations in Power BI.

Overview

Displays key metrics, booking trends, and demographics.



Cancellations

Provides insights into cancellation patterns, special requests, and their impact.



Operational Insights

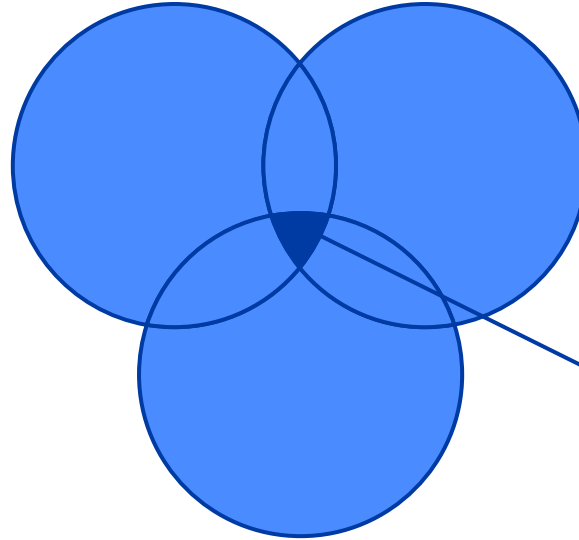
Highlights guest preferences for room types, meal plans, and parking utilization.



Booking Trends

Rising Bookings

Seasonal
Demand Peaks



Higher average
room prices

**Peak Booking
Period:
July to October**

Cancellations



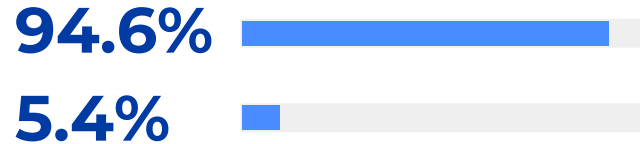
33%

Cancellation Rate

- Often associated with **long lead times** (> 30 days).
- Guests making **zero special requests** are more likely to cancel compared to those who make one or more requests.
- Cancellation rates are higher during certain months, suggesting external factors such as seasonality.

Customer Demographics

Adult vs. Child



Preferences

- **Room Type 1** is the most popular, regardless of whether guests are new or returning.
- **Meal Plan 1** is selected in **76%** of bookings.
- Only **3.1%** of bookings require parking, indicating potential underutilization of parking spaces.
- **64%** of bookings are made **online**.

Guest Retention

2.56%

Repeated Guests

There is an **opportunity** to improve loyalty programs.

Data-driven Strategies

Transforming analysis into targeted
recommendations for improvement.

Recommendations



Leverage Seasonality Trends

- Dynamic pricing.
- Seasonal promotions.



Reduce Cancellations

- Flexible cancellation policies.
- Efficient handling of special requests.



Optimize Operations

- Focus on popular room types.
- Streamline meal plans.
- Reassess the parking space allocation.



Enhance Retention

- Launch loyalty programs to encourage repeat bookings.
- Personalized offers for returning guests.

Conclusion

- **Key insights:**

- Identified trends in bookings, cancellations, and operational metrics.
- Room Type 1 and Meal Plan 1 are the most popular among guests.
- Higher special requests are linked to lower cancellation rates.

- **Opportunities:**

- Implement flexible cancellation policies to reduce cancellation rates.
- Optimize resource allocation for popular room types and meal plans.
- Launch targeted marketing and loyalty programs to boost guest retention.

- **Outcome:**

- Improved booking stability, reduced cancellations, and increased guest loyalty.
- Enhanced operational efficiency by focusing on high-demand offerings.
- Strengthened revenue streams through better resource management and personalized services.

Thank you

Do you have any questions?

Feel free to reach me on [LinkedIn](#) or
explore the full project on [GitHub](#)!

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