

Hotel Cancellation Analysis

This presentation delves into the exploratory data analysis (EDA) of hotel booking data, emphasizing the factors that affect cancellation rates. By examining various features, we aim to gain insights into customer behavior.





Key Features

Type of Meals

Room Types

Lead Time

Market Segment Type

Special Requests

Number of Adults and Children

Weekend and Week Nights

Car Parking Space

Date of Reservation

Influence of Meal Type and Parking on Guest Satisfaction

Understanding the impact of meal offerings and parking availability is essential for enhancing guest satisfaction. Providing value through meal plans and ensuring accessible parking can significantly reduce cancellation rates.

Type of Meal

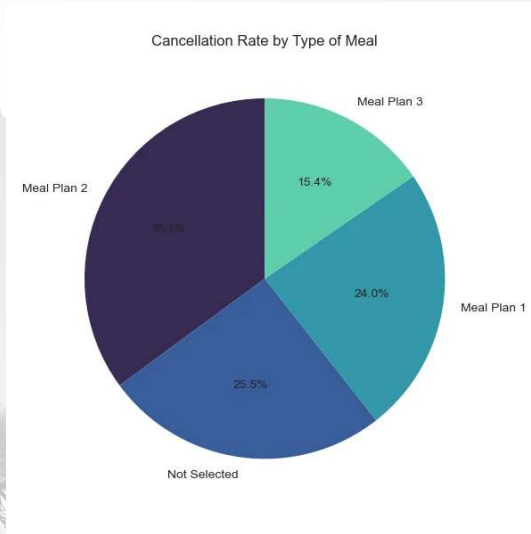
Different meal plans (e.g., Meal Type 1) may influence guest satisfaction and their likelihood to cancel, as value perception plays a significant role in customer decisions.



Car Parking Space

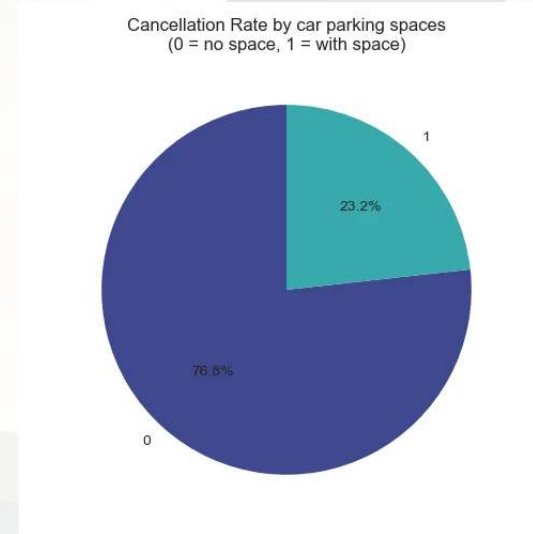
Availability of parking can be a crucial factor for guests traveling by car; limited parking may lead to higher cancellation rates if guests perceive inconvenience.

Influence of Meal Type and Parking on Guest Satisfaction



Meal Types

Meal Plan 2 has the highest cancellation rate with **35.1%**



Car parking space

Customers without cars and no need for parking appear to have a higher tendency to cancel their bookings with a percentage of **76.8%**

Impact of Room Types and Market Segment Types on Cancellation Behavior

Room Type

The type of accommodation can affect cancellation behavior.

Higher Expectations

Luxury options may lead to higher expectations and elevate cancellation risks.

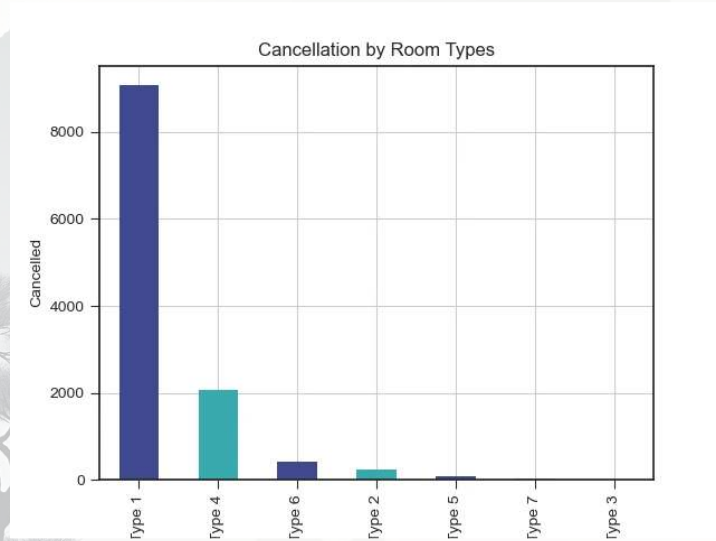
Market Segment Types

Different methods to book a room (e.g. online, offline, aviation, corporate, complementary).

Flexible Bookings

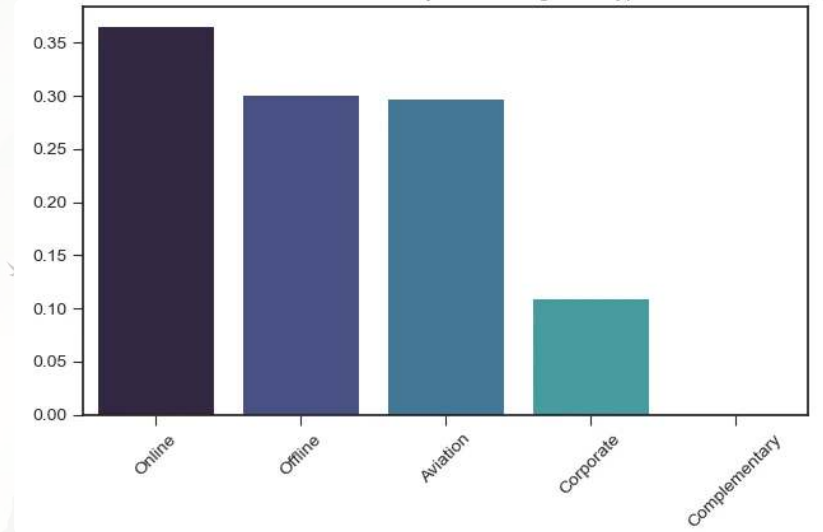
Certain market segments, such as online, show higher cancellation rates due to flexible policies and less commitment.

Impact of Room Types and Market Segment Types on Cancellation Behavior



Room Types

more than 9000 cancellations for Room Type 1
which represent 1/3 of whole data



Market Segment Types

Online Booking Method shows higher cancellation
Rate rather than other segment types with >35%

Lead Time and Special Requests

Understanding the impact of lead time and special requests on guest behavior is crucial for improving booking stability. Proper handling of special requests can significantly lower cancellation rates.

Lead Time

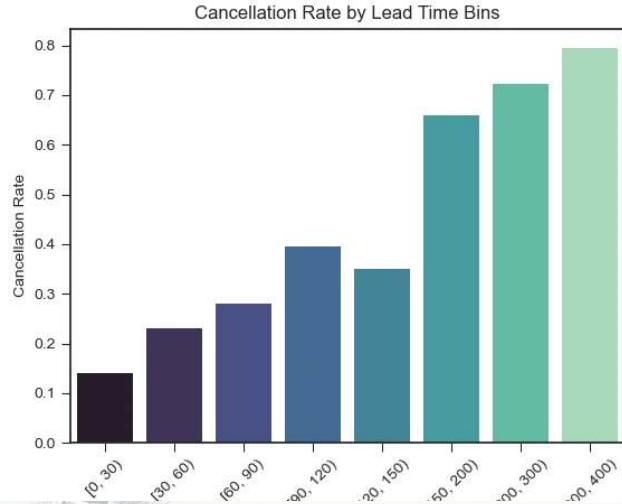
The waiting time between reservation and arrival can significantly affect cancellation rates; higher time may deter cancellations.

Special Requests

Requests made during booking can indicate guest expectations, and failure to meet these may lead to cancellations.

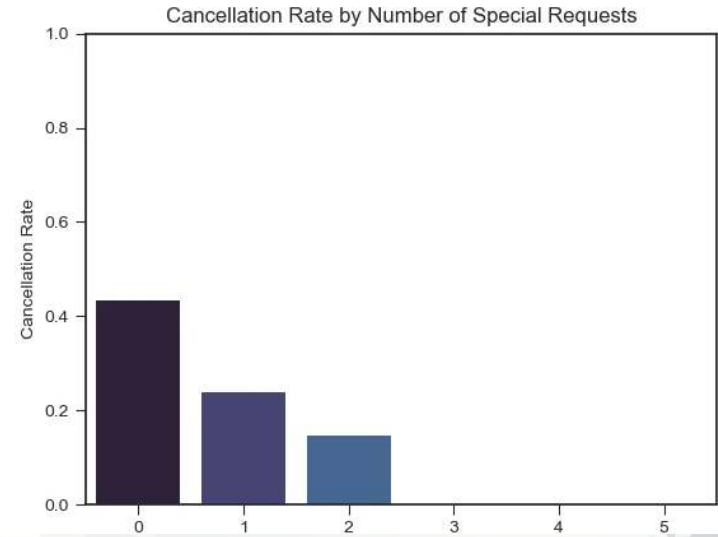


Lead Time and Special Requests



Lead Time

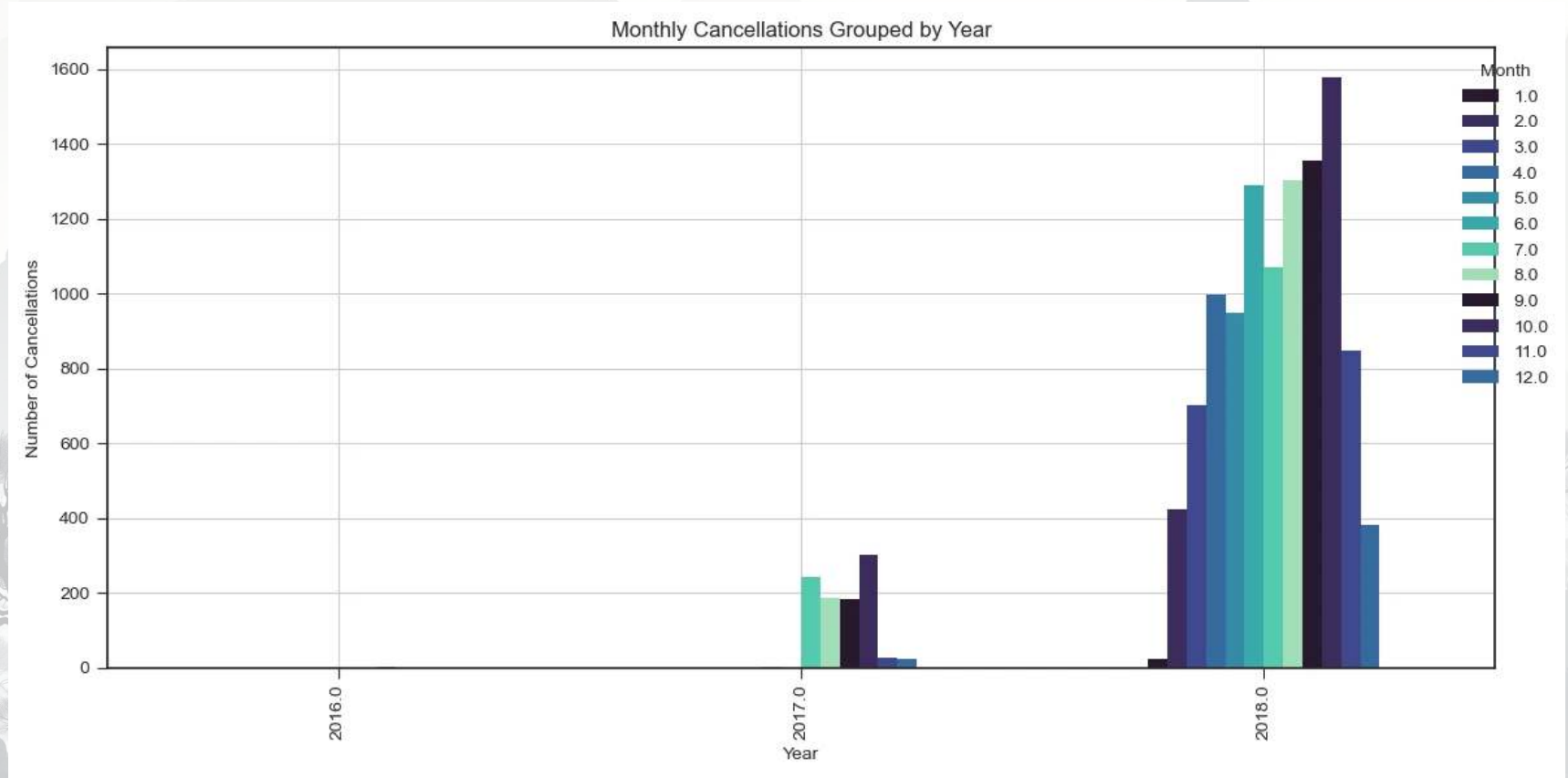
The **more lead time** consumed the **higher tendency to cancel**



Special Requests

people with **no special requests** have higher tendency to cancel with a percentage of **42%**

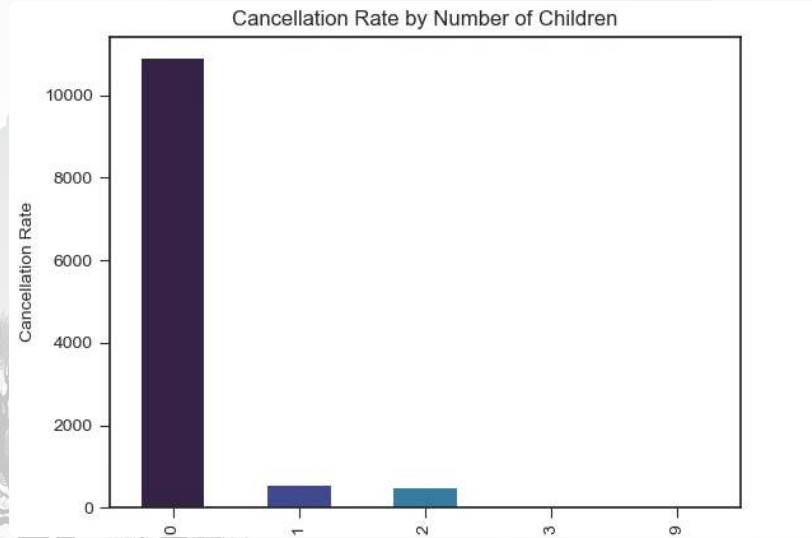
Cancellation by Reservation Dates



Reservation Dates by years and months

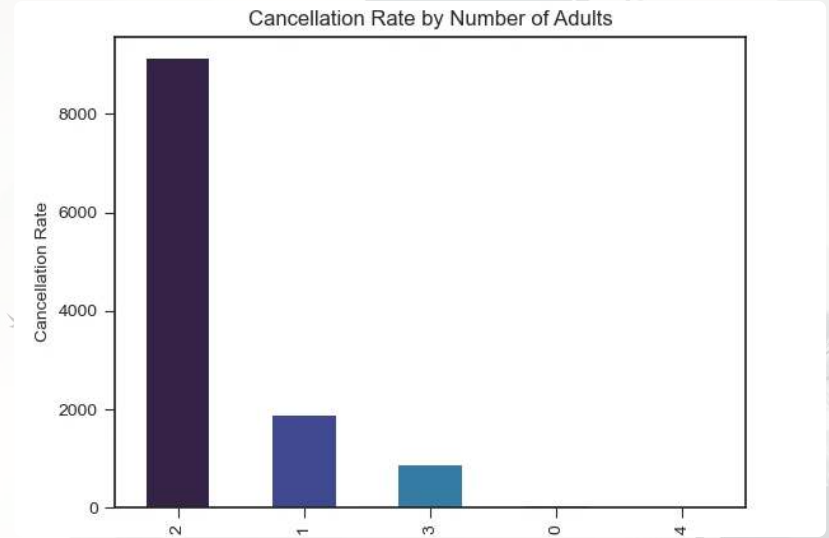
The graph shows that cancellations sharply **increased in 2018**, peaking between **August and October**, while 2017 had very few cancellations throughout the year

Number of Children and Adults Impact



Children Numbers

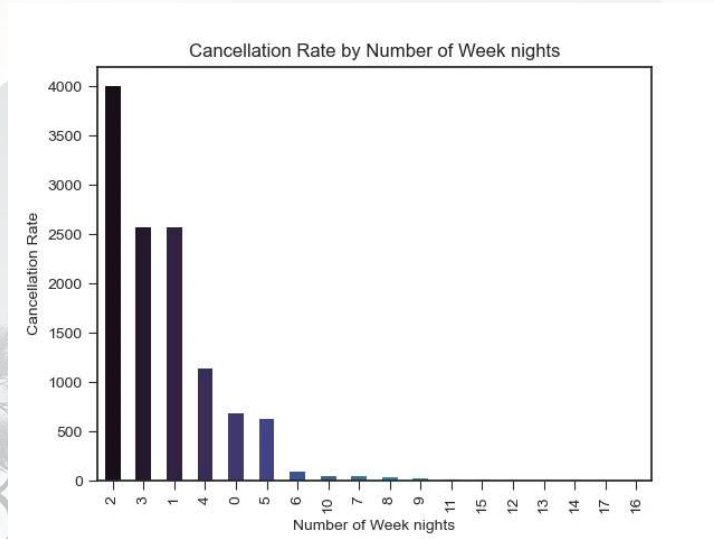
The **more cancellation** segments are with **no children**.



Adults Number

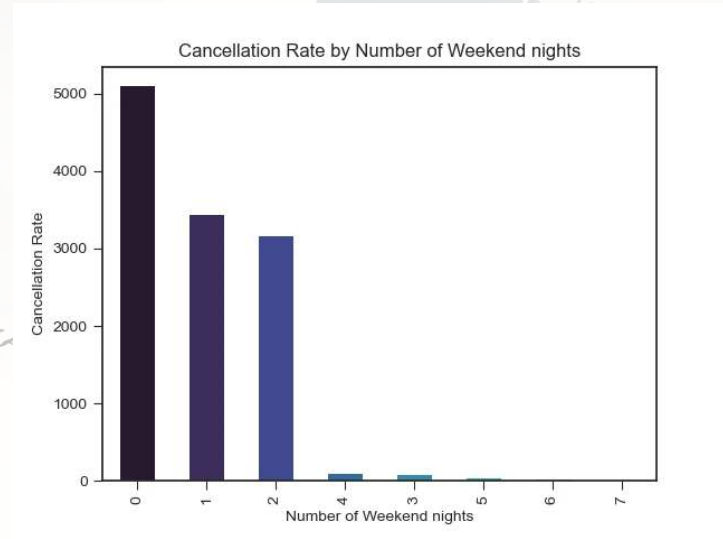
The **more cancellation** happens for couples (adults = 2).

Number of Week and Weekend Nights



Week Nights

Majority of cancellation happens from booking for less than 3 weeknights.



Weekend Nights

Majority of cancellation happens from booking for less than 2 weekend nights.

Conclusion

● **Parking Influences Behavior**

Guests without cars or parking needs tend to cancel more often.

● **Room Type Expectations**

Luxury or specific room types experience more cancellations, possibly due to higher expectations.

● **Online Bookings Cancel More**

Market segments like online bookings show the highest cancellation rates due to flexible policies.

● **Lead Time Correlates with Cancellations**

Longer lead times are associated with higher cancellation likelihood — indicating impulsive bookings may be more stable.

Conclusion

● **Special Requests Reduce Cancellations**

Guests who make special requests are less likely to cancel, signaling greater commitment.

● **Cancellation Peaks in Specific Months**

2018 saw a sharp rise in cancellations, especially from August to October.

● **Families Cancel Less**

Bookings with no children or exactly two adults (likely couples) cancel more frequently.

● **Short Stays Cancel More**

Most cancellations occur for reservations with fewer than 3 weekday or weekend nights.