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Hotel Booking Cancellation Analytics & Prediction



Booking Trends Over Time



- Analyze reservation patterns month-wise or quarter-wise.

booking_status

Canceled

Not_Cancel...

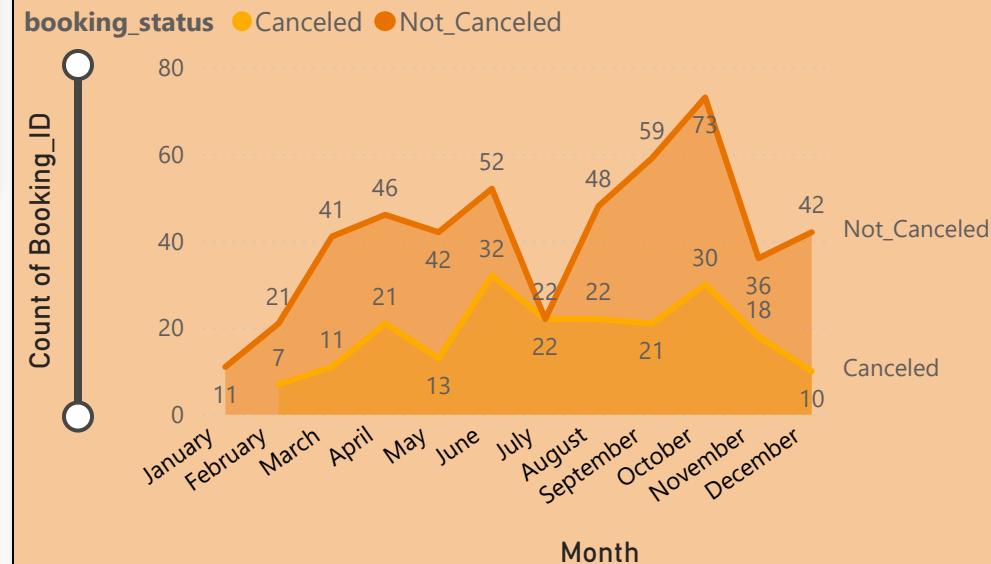
Booking Dates

01 July 2017

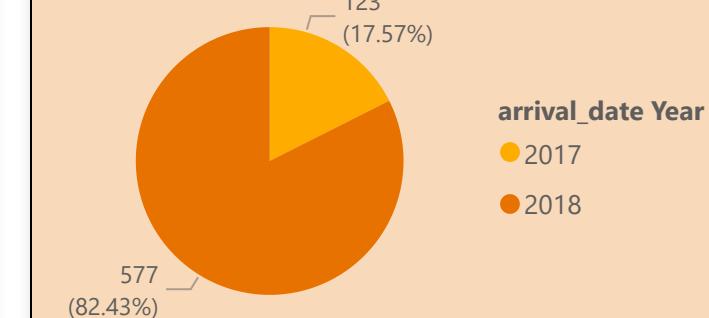
16 July 2017

17 July 2017

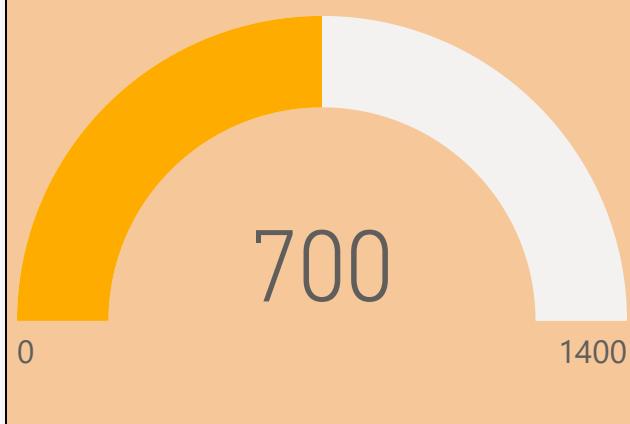
Count of Booking_ID by Month and booking_status



Count of booking_status and Cancellation Rate by Year



Count of booking_status



Description

This report provides insights into hotel booking trends:

Line Chart (Center): Shows monthly reservation trends, comparing canceled and not canceled bookings.

Pie Chart (Top Right): Displays the cancellation rate by quarter to identify peak cancellation seasons.

Gauge (Bottom Center): Indicates the total number of bookings.

Slicers (Left): Allow filtering by booking status and specific booking dates for deeper analysis.



Lead Time vs Cancellation

LEAD TIME BUCKET

Lead Time Bucket

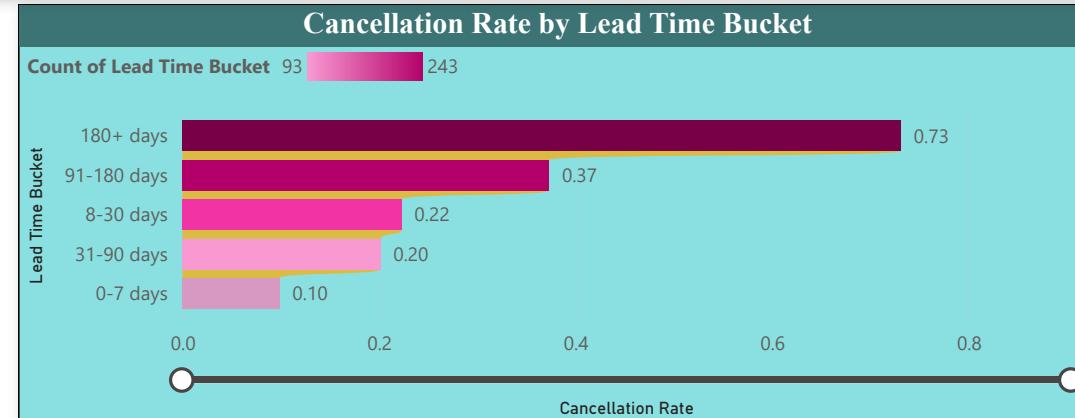
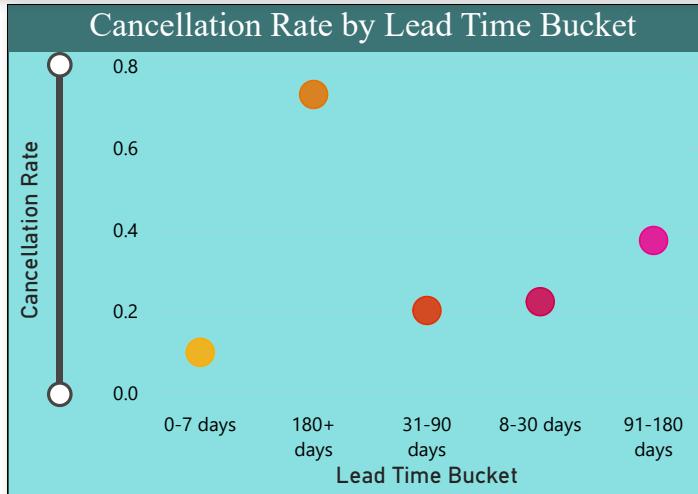
0-7 days

180+ days

31-90 days

8-30 days

91-180 days



Description

This report examines the relationship between **lead time** (how early a booking is made) and the **likelihood of cancellation**.

Scatter Plot (Top Left): Shows how cancellation rates vary across lead time buckets.

Bar Chart (Top Right): Highlights that bookings made well in advance (180+ days) have the **highest cancellation rate (0.73)**.

lead time booking status

- ▼ 0
- ▼ 1
- ▼ 2
- ▼ 3
- ▼ 4
- ▼ 5



Meal Plan Preferences

Sum of [Cancellation Rate] by Hotel_Reservation_Dataset (1)[type_of_meal_plan]



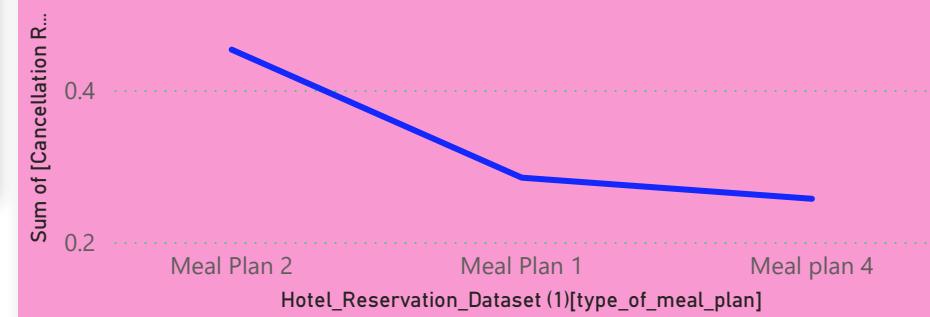
Sum of Cancellation Rate

0.99

Sum of [Cancellation Rate]



Sum of [Cancellation Rate] by Hotel_Reservation_Dataset (1)[type_of_meal_plan]



Meal plan&Cancellation Rate

Meal Plan 1

0.28

Sum of [Cancellation Rate]

Meal Plan 2

0.45

Sum of [Cancellation Rate]

Meal plan 4

0.26

Sum of [Cancellation Rate]

Description:

This section analyzes the **cancellation rate based on meal plan selection**.

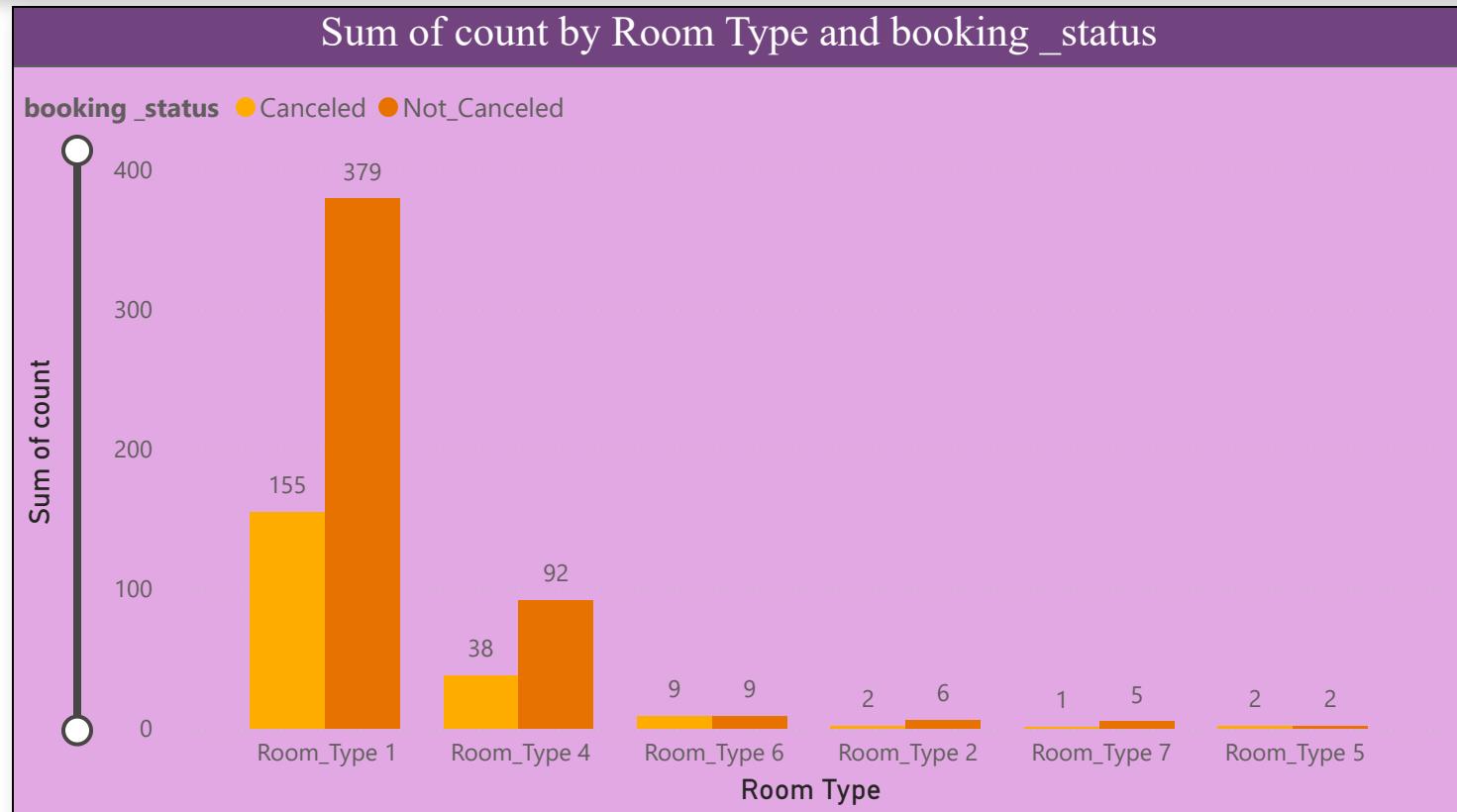
Meal Plan 2 has the **highest cancellation rate** (0.45),

Followed by **Meal Plan 1** (0.28),

And **Meal plan 4** meal plan shows the **lowest cancellation rate** (0.26).

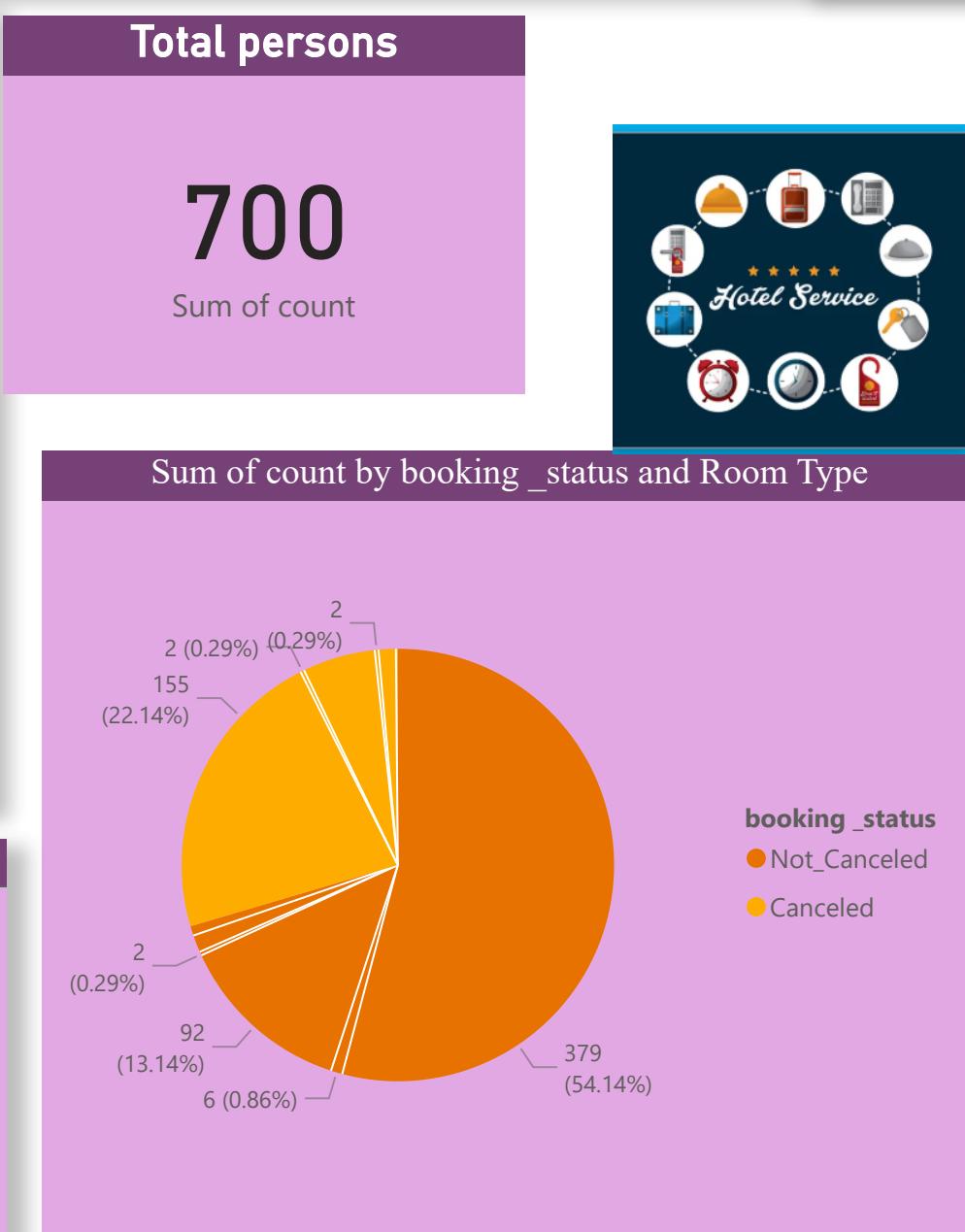


Room Type Impact



Descreption

This dashboard shows how **room type affects booking cancellations** out of a total of **700 bookings**.
Room Type 1 is the most booked and also has the highest number of **cancellations** (**155**) and **non-cancellations** (**379**).
Room Type 4 follows with fewer bookings but still noticeable cancellations (92) and non-cancellations (38).
Other room types (2, 5, 6, 7) have minimal booking activity.



Booking Channel Efficiency



Region

East

West

Count of booking_status and Cancellation Rate by market_segment_type and Region

Online

Offline

West 138

North 126

East 37

South 37

East 128

South 126

West 30

Corporate

Compl...

North 10

South 7

East 5

Wes...

So...

No...

- market_segment_type
- Online
 - Offline
 - Corporate
 - Complementary
 - Aviation

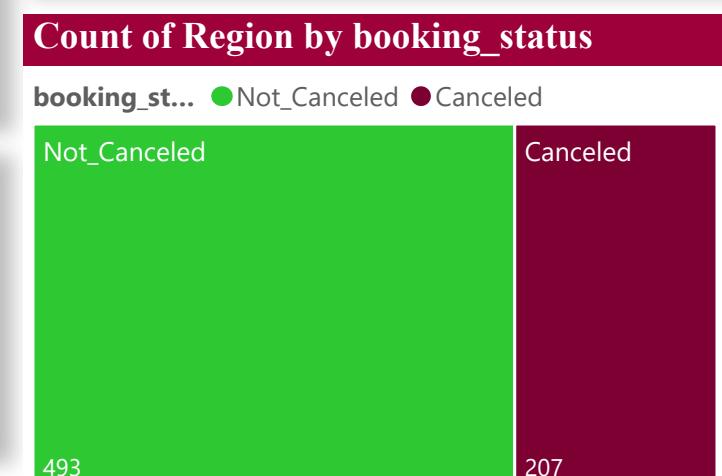
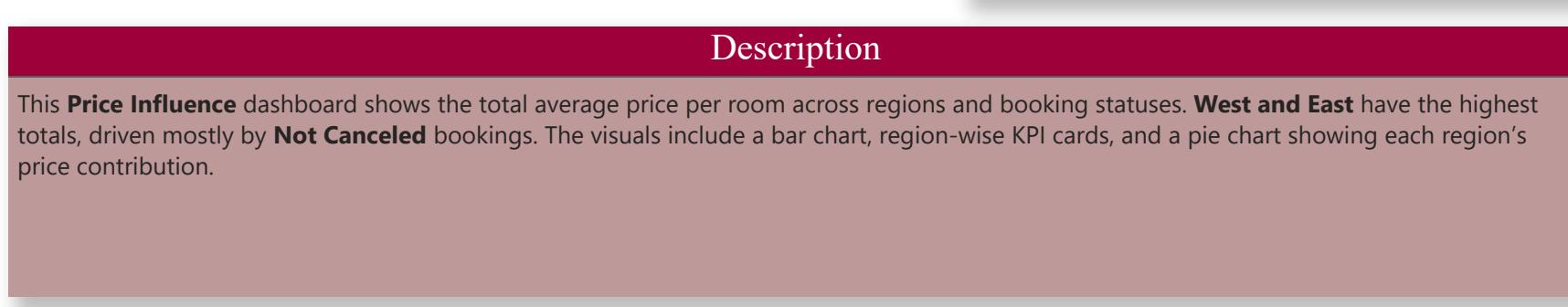
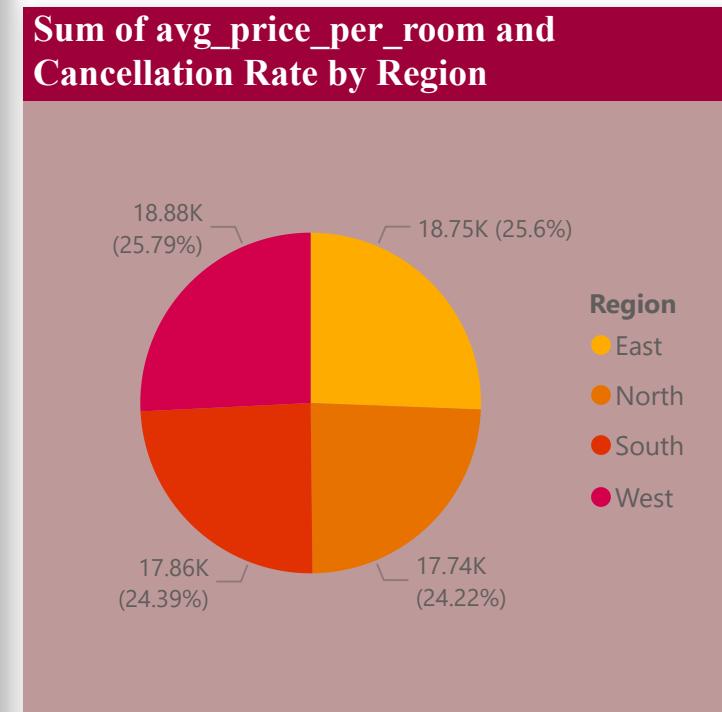
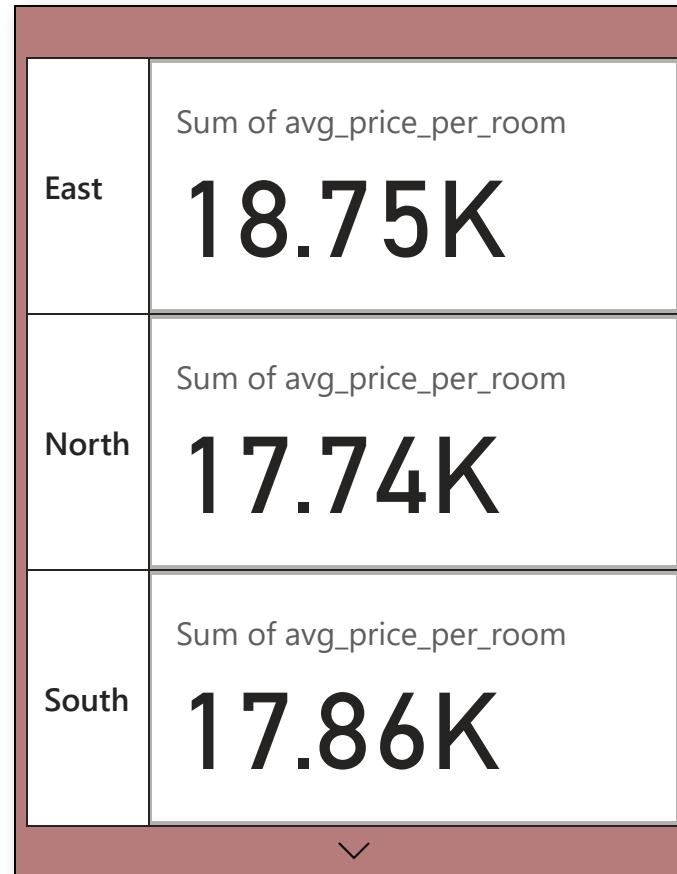
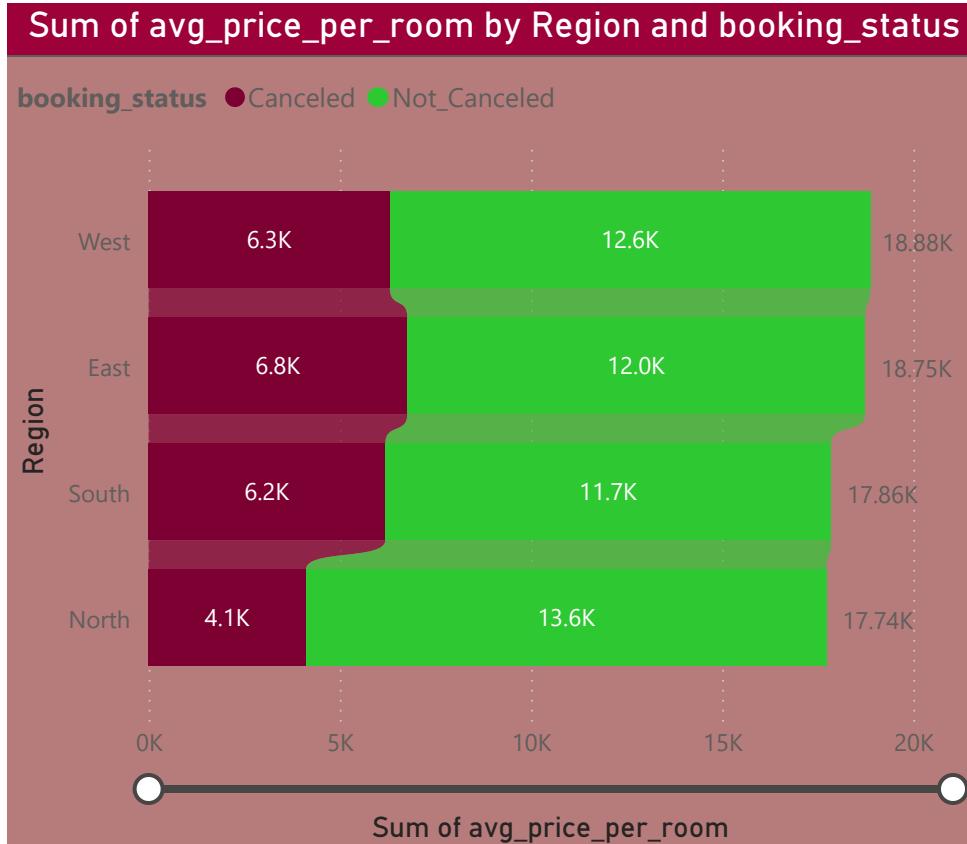
booking_status	Region	Cancellation Rate
Canceled	East	1.00
Not_Canceled	East	0.50
Canceled	North	1.00
Not_Canceled	North	0.28
Canceled	South	1.00
Not_Canceled	South	0.46
Total		0.30

Description

This dashboard titled "**Booking Channel Efficiency**" displays cancellation rates segmented by **region** and **market segment type** (Online, Aviation, Corporate). Users can filter by region using radio buttons. A tree map visually

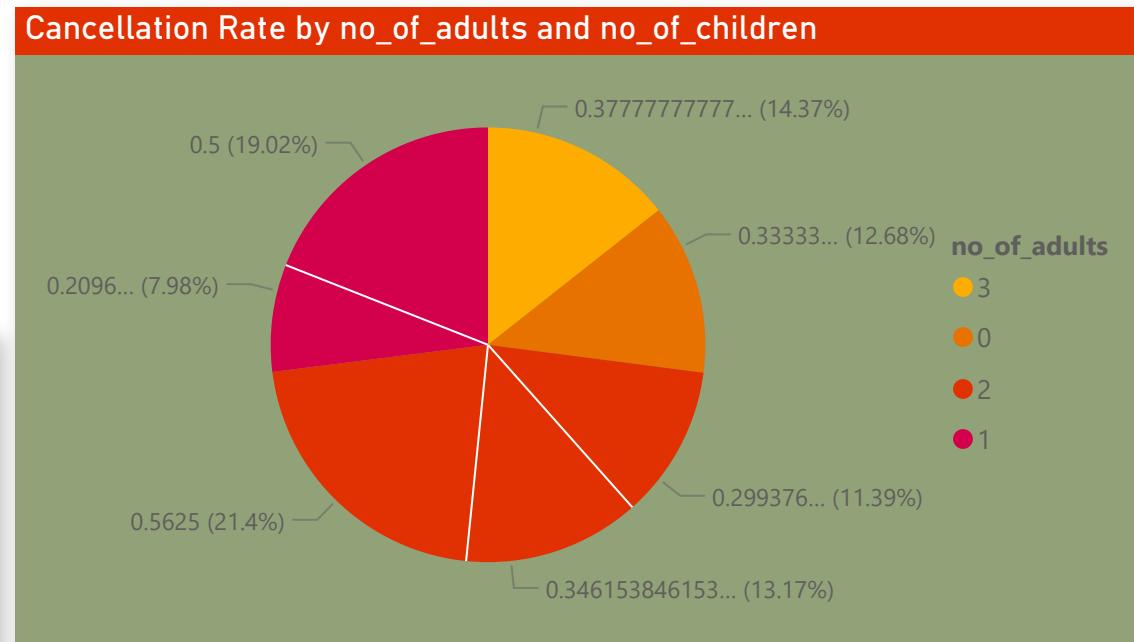
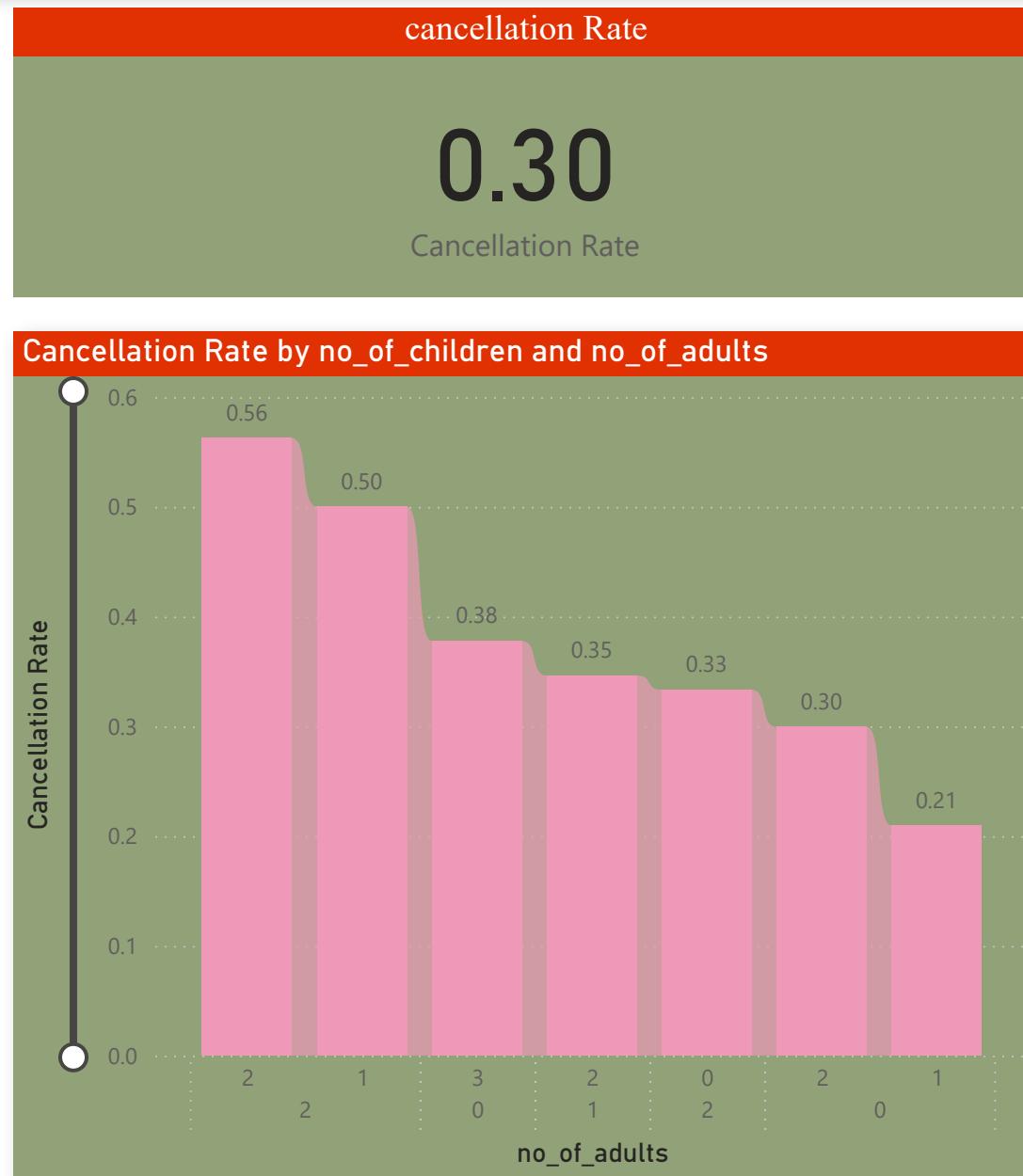


Price Influence





Family vs Solo Travel Patterns



Description

Highest Cancellation Group: 2 adults & 2 children (56%)

Bar Chart: Shows cancellation rate decreases with fewer guests.

Pie Chart: Most cancellations come from bookings with 2 adults&2 children (56%)

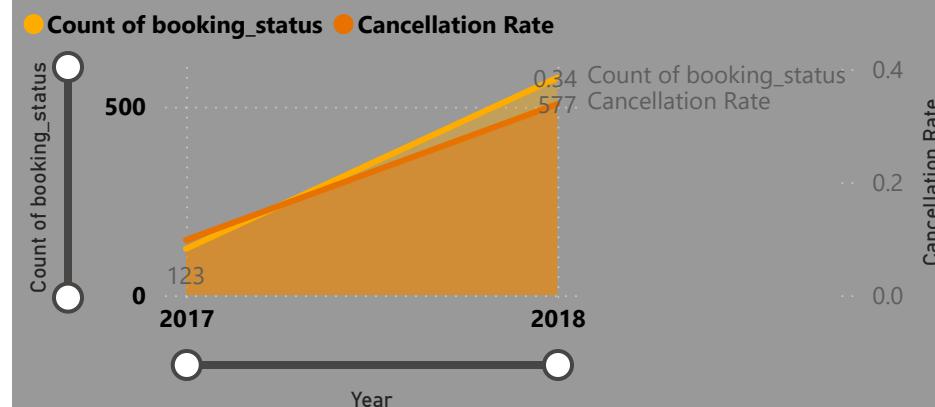


Arrival Date vs cancellation



Region	arrival_date
East	01 July 2017
North	16 July 2017
South	25 July 2017
West	17 July 2017
East	08 August 2017
North	10 August 2017
South	11 August 2017
West	12 August 2017

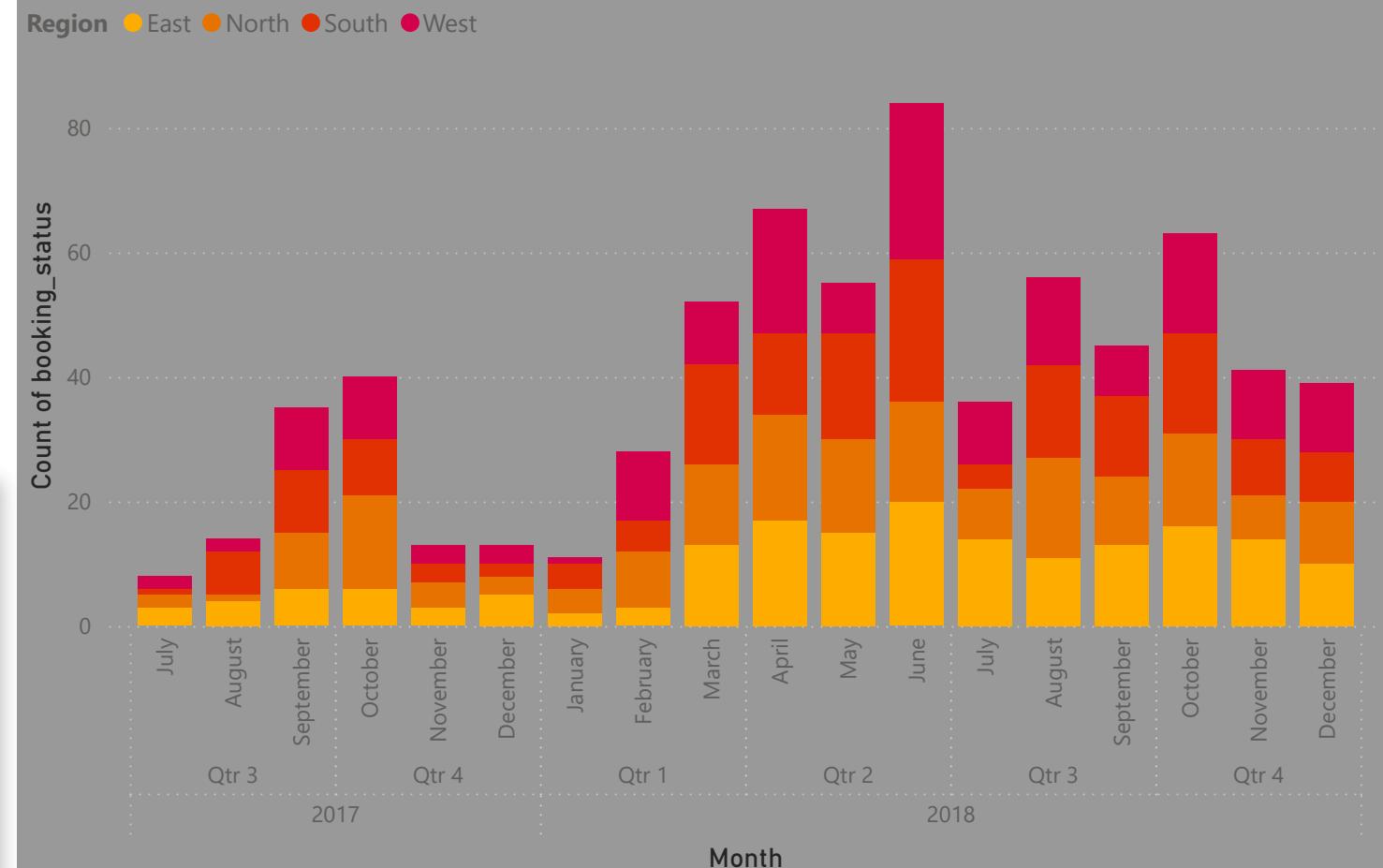
Count of booking_status, Cancellation Rate and First Region by Year



Description

This dashboard visualizes booking trends and cancellation rates over time. From 2017 to 2018, the **number of bookings increased significantly**, along with a rise in the **cancellation rate from 0.13 to 0.34**. The monthly breakdown shows **peak booking activity in June 2018**, especially in the **West and South regions**. The data highlights seasonal trends, with higher booking and cancellation volumes in **Q2 and Q3 of 2018**.

Count of booking_status and Cancellation Rate by Year, Quarter, Month and Region



Summary

This project looks at why hotel bookings get canceled and how to reduce those cancellations. Most bookings come from online sources, but they also have the highest cancellation rate. Offline and corporate bookings are more reliable. The analysis also looks at how early people book, what room or meal they choose, and when they plan to arrive — all of which can affect if they cancel. A special score was created to show which bookings are at high risk of being canceled. The dashboard also includes privacy settings so only certain staff can see sensitive info. Overall, this helps the hotel make better decisions and reduce losses.



THANK
YOU !

