Summer Projects '25

Data Analytics & Consultancy

PROBLEM STATEMENT
:

Optimizing Revenue Leakage & Profitability in the Hospitality Sector

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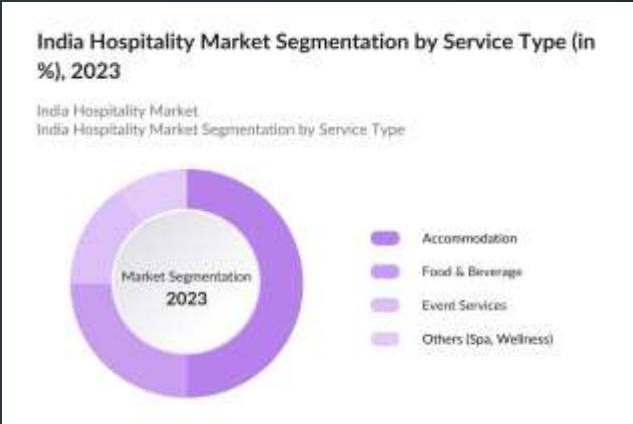 : https://www.linkedin.com/in/jatin-rana-0a5632259

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Problem Overview

In the competitive and dynamic hospitality industry, hotels and resorts often face unexplained revenue leakages, fluctuating profitability, and underutilized service offerings. These issues can stem from a variety of factors, such as inefficient pricing strategies, low performing service segments (e.g., spa, room service, event hosting), poor upselling or cross-selling, misaligned customer targeting, or seasonal demand mismanagement.

India Hospitality Market Segmentation by Service Type (in %), 2023

India Hospitality Market
India Hospitality Market Segmentation by Service Type

- Accommodation
- Food & Beverage
- Event Services
- Others (Spa, Wellness)

Market Segmentation 2023

It shows how different types of hotels create their market and how the industry has accepted this approach to target different classes of people. This creates a significant revenue gap driven by luxury offerings, service quality, and maintenance levels.
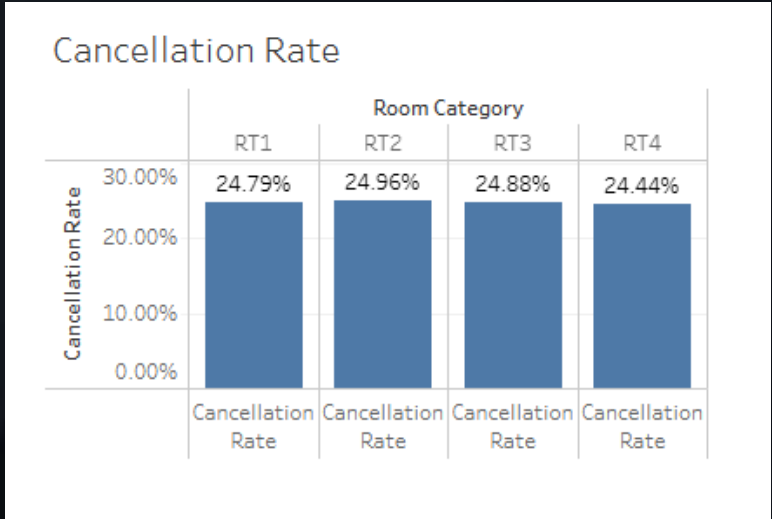

Cancellation Rate

	Room Category			
	RT1	RT2	RT3	RT4
Cancellation Rate	24.79%	24.96%	24.88%	24.44%

It is showing that accommodation covers only 50% of the market share in the hospitality sector. There are other factors also which contribute to the revenue. Are they the other factors of the revenue leakage?

Global Hotel Market Segmentation by Hotel Type (in %)

Global Hotel Market
Global Hotel Market Segmentation by Hotel Type

- Business/Commercial Hotels
- Boutique Hotels
- Resort Hotels
- Casino Hotels
- Others

Market Segmentation

Fig: I identified that the cancellation rate of customers is exceptionally high, about 24%, and it is also a big problem in this sector or domain. This will give us a different angle of analysis.

Root Cause Analysis

Funnel Analysis

User Reach to the Booking platform (100%)

Successful booking 70%

Room confirm or stay 60%

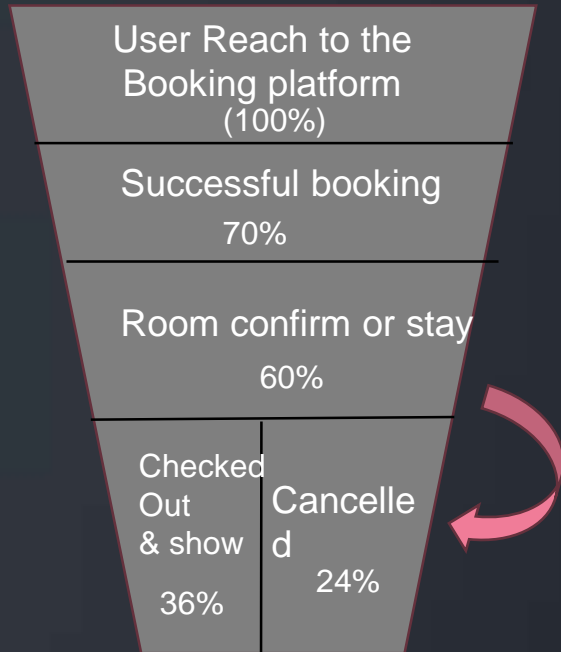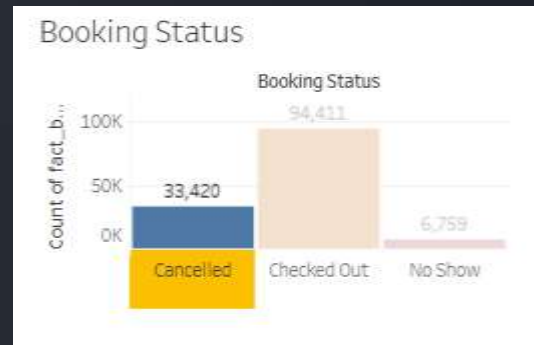Checked Out & show 36%

Cancelled 24%

Fig: It give the idea how many people from total bookings are cancelled their booking and you can see the number of people around 24% which is very high in number.
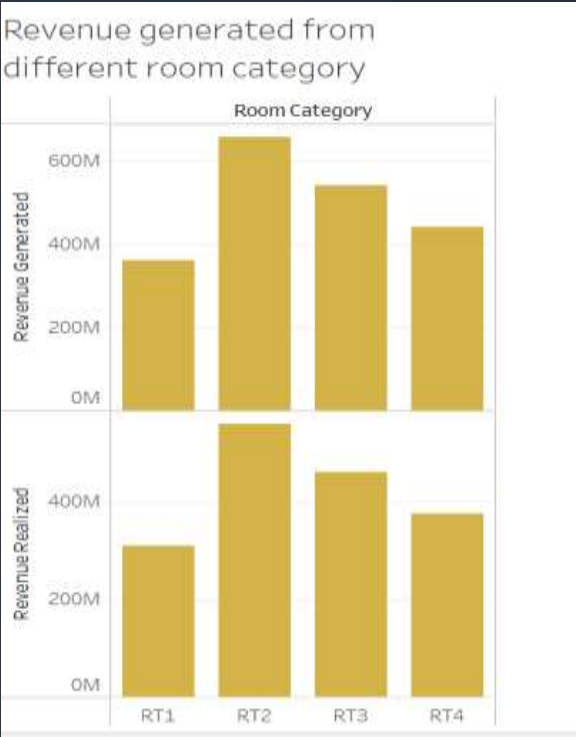
Booking Status

Booking Status

94,411
33,420
6,759

Count of fact_b...
100K
50K
0K

Cancelled | Checked Out | No Show

Key Insights:

- **People reach the platform, check, but only 70% of people actually do successful booking.**
- **10% rooms still can be given to other people if they cancel in between, which means the room is yet to be confirmed.**
- **When we come to the booking status, the cancelled status is 24% of 60%, which means around 40% of people are cancelling the booking, which is seen as a main reason for revenue leakage.**

Reason of the Cancellation of booking and revenue leakage.

- **Drop-off in Customer Commitment**

  Customers who have willingness to rent a room now want to withdraw from their booking because of their personal reasons.

- **Customer find other better option**

  Customers book a room but continue browsing and cancel if they find a better option or price.

- **Postponed the booking**

  Customer booked the room for this upcoming weekend, but due to some reason, customer cannot make it this week, so wants to postpone the plan
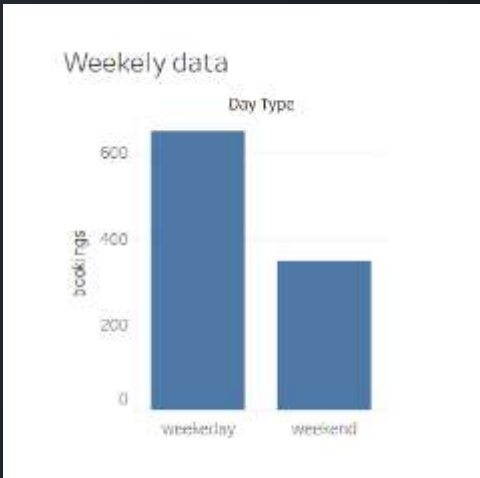
Key Finding from Data Source

Revenue generated from different room category

capacity vs occupancy

room_category	booking_status	Sum of no_guests
RT1	Cancelled	77
	Checked Out	103
	No Show	4
RT1 Total		184
RT2	Checked Out	118
	No Show	9
RT2 Total		127
RT3	Checked Out	67
RT3 Total		67
RT4	Checked Out	33
	No Show	2
RT4 Total		35
Grand Total		413

This shows that we have the capacity, but the booking is less or the occupancy % is not good.
Key Point:
It means if some rooms are not rented, then we have to give their maintenance cost, so we are burning our money on non-rented
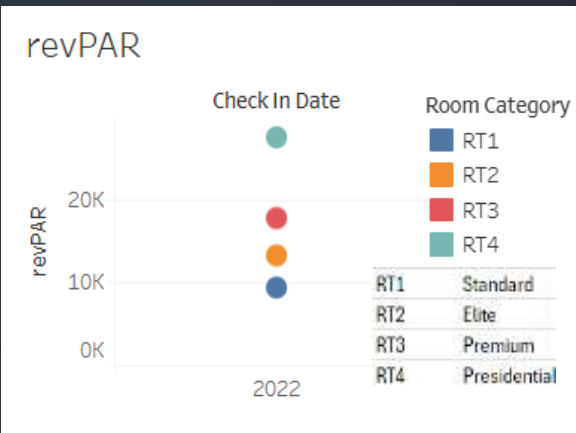
I initially analyzed 200 data entries to check cancellation trend
Key Point:
We clearly can see that RT1 (Standard) Hotel room is facing approximately 77 cancellation bookings out of 184 bookings in this dataset.
This is approximately 40%, and it shows that we are facing issues through the cancellation policy. It is necessary, but it is one of the reasons for revenue leakage.

It shows revenue from different room categories and how much revenue we realized from our generated revenue.

Weekely data

Booking status on a weekly basis, on weekends the booking increases as compared to weekdays according to the data source.

Key Finding from Data Source

We will see how each platform of our advertising performs in our booking.
Key Point:
Through it, we will focus more on that platform, and for the platform which is performing less, we will identify their problem and then try to gain bookings from that platform too.
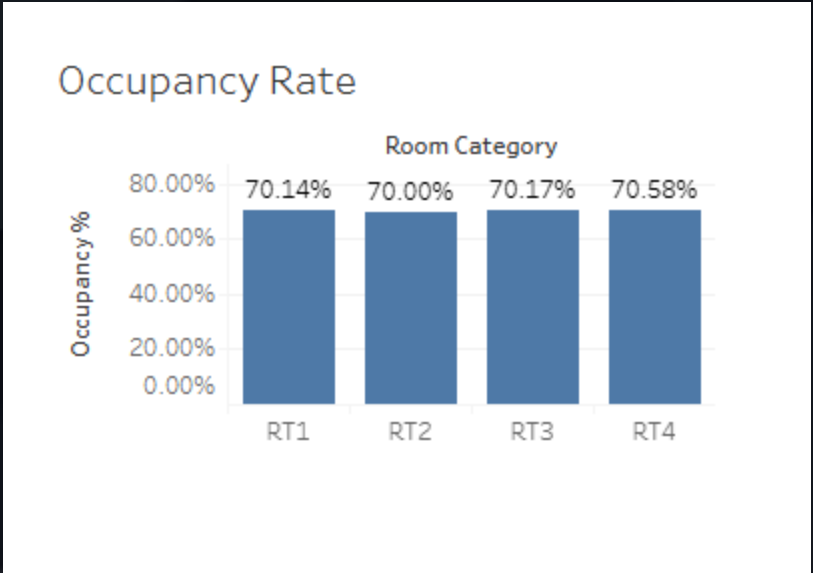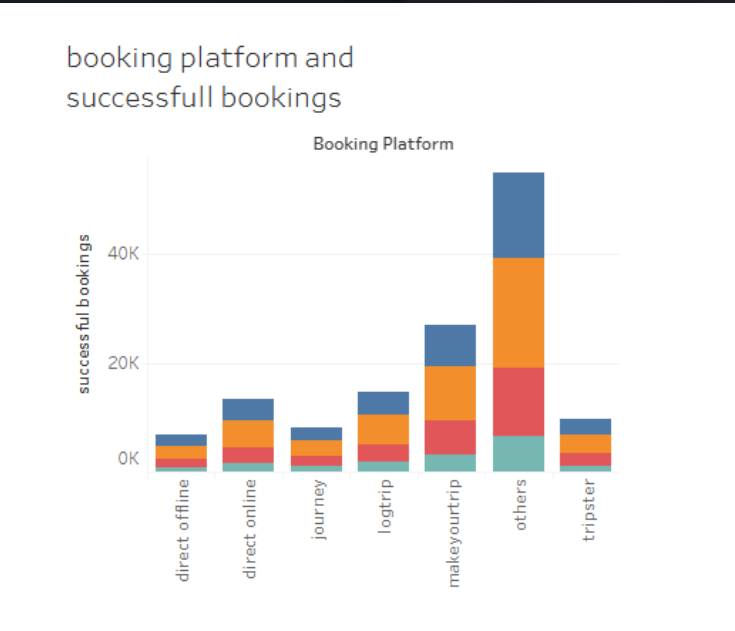

This graph shows the RevPAR (Revenue Per Available Room), which means different categories of rooms have their different price and life, and the revenue generated from different categories of rooms is shown.
And this second graph shows revenue as generalised and realised as the same for different categories of rooms available.
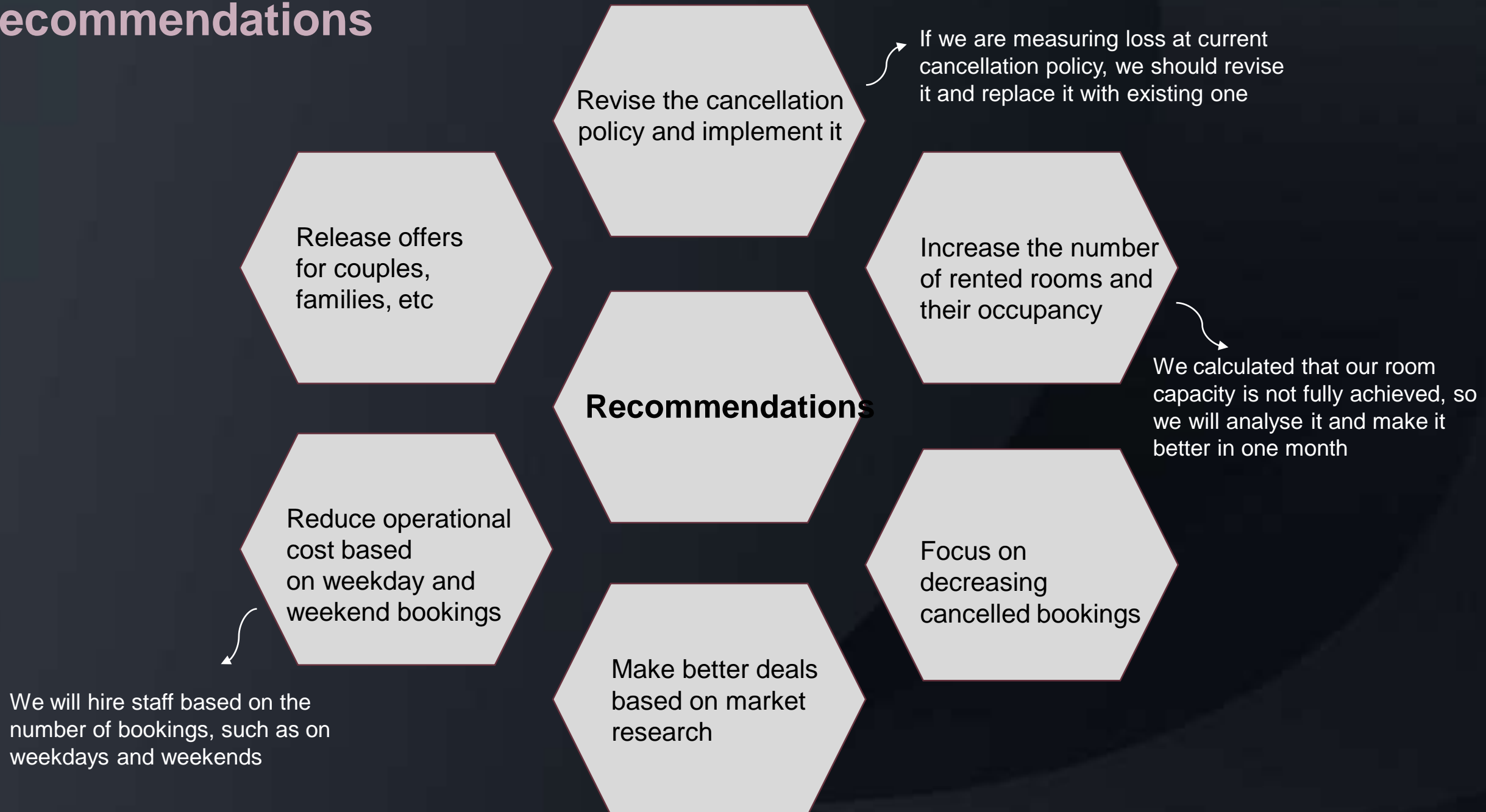
This graph expresses that not all rooms are rented at one time, so such percentage of rooms are not rented.
Key Point:
We already explained that these non-occupied rooms interfere with revenue because they need maintenance cost which comes from the revenue itself.

Recommendations

Revise the cancellation policy and implement it

If we are measuring loss at current cancellation policy, we should revise it and replace it with existing one

Release offers for couples, families, etc

Increase the number of rented rooms and their occupancy

We calculated that our room capacity is not fully achieved, so we will analyse it and make it better in one month

Recommendations

Reduce operational cost based on weekday and weekend bookings

We will hire staff based on the number of bookings, such as on weekdays and weekends

Make better deals based on market research

Focus on decreasing cancelled bookings

ROI Impact

Metrics(KPIs)	Before	After(Recommendations)	Change(%)	Impact(Cause)
Occupancy Rate	70%	80%	10%	Offers on bookings or reduced prices
Cancellation Rate	24%	15%	9%(negative)	Discount on low-cost room, best deals on all platform against competitors
ROI	110%	145%	35%	Implement all decisions in the next one month
Avg RevPAR	13K	15K	16%	Renting all room, discount on low-cost room,

Dashboard-1: Revenue & booking
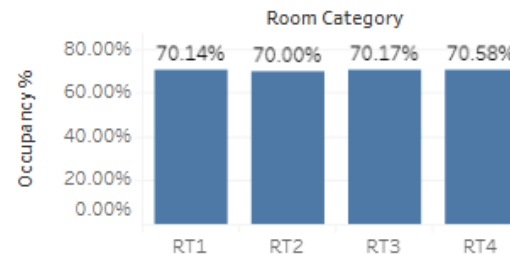

Room Category vs Revenue
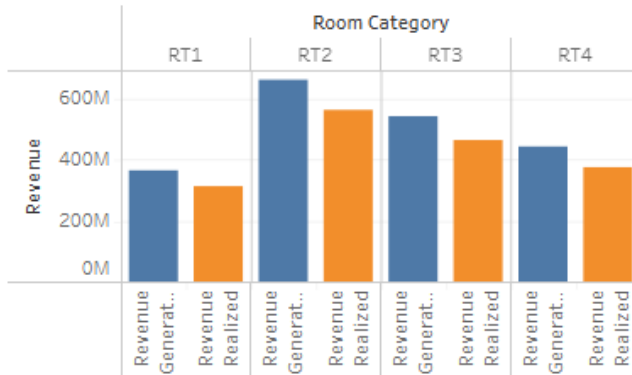
booking platform and successfull bookings
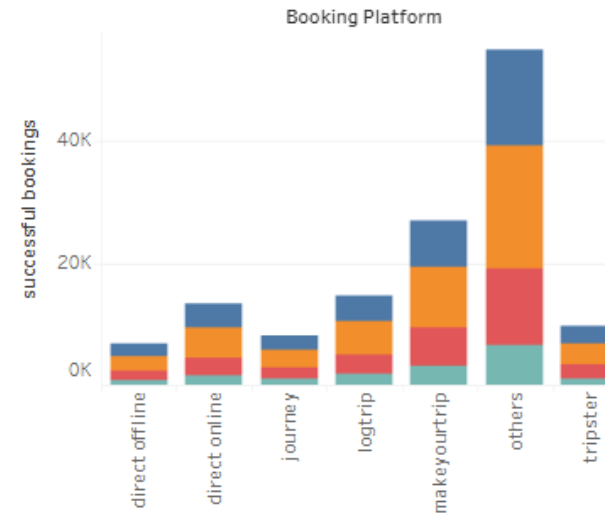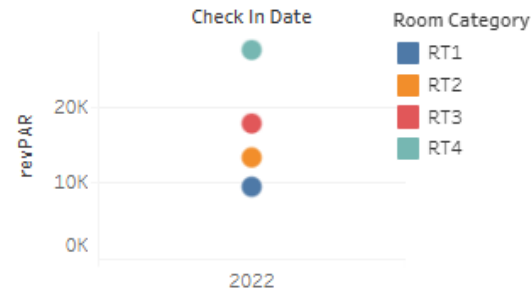
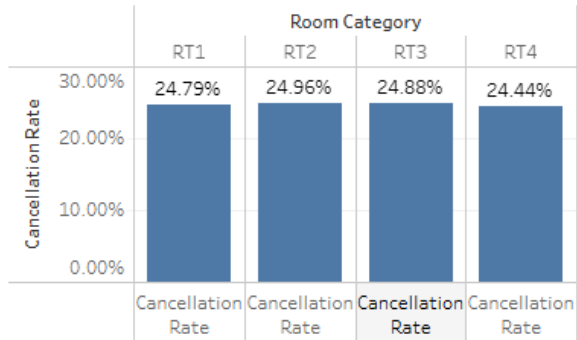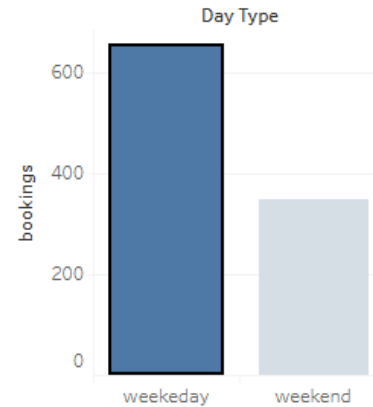### revPAR

Occupancy Rate

Insights

- RT2 has highest realized revenue, yet still lags behind vs. generated.
- Most of the successful bookings are from MakeMyTrip.
- RevPAR indicates volatility — RT4 is ahead, RT1 is behind.
- Occupancy is always in the 70%, indicating potential to rise further with new initiatives.

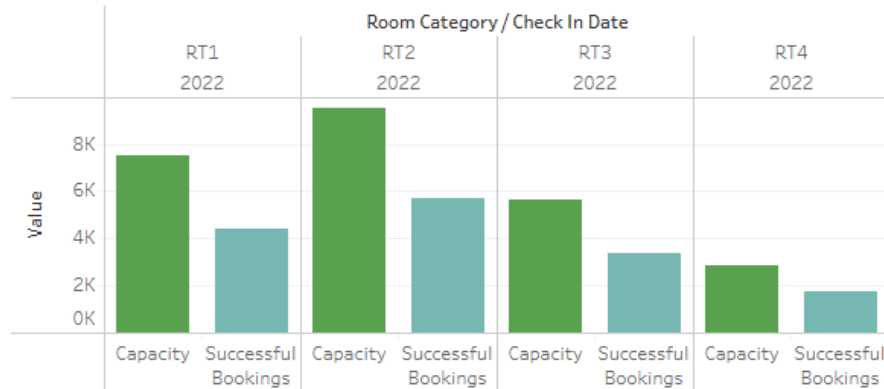# Dashboard-2: Cancellation & occupancy

Insights

- Cancellation rate is quite high (around 24–25%) for all room types, and this is one of the major reasons why we are losing revenue.
- Weekday bookings are more than weekend bookings, so we can improve weekend numbers by giving some offers or couple/family deals.
- Rooms are available, but successful bookings are low, especially in RT1 and RT2. So, many rooms are going empty without rent.
- Even if rooms are empty, we have to spend on room maintenance.

THANK YOU