

# ITC HOTEL

POWER BI DASHBOARD INSIGHTS FOR  
ENHANCED DECISION-MAKING

PRESENTED BY SAGAR



# Welcome To Mentor

Where numbers tell stories, insights drive action, and data shapes the future! Get ready for a visually stunning and thought-provoking journey through analytics. Let's decode trends, unlock opportunities, and turn data into powerful decisions. The future is data—let's explore it together!

# Introduction & Project Goals

**Objective:** Optimize revenue, minimize cancellations, and enhance customer satisfaction

**Key Focus Areas:** Financial Performance, Booking Behavior, Occupancy Trends, Room Category Performance

# Financial Overview & Revenue Performance

## Key Questions to Answer:

1. What is the total revenue generated by ITC Hotels and how does it vary across different hotels and room categories?
2. What is the cumulative revenue growth over time?
3. How has the revenue grown month-over-month (MoM) and week-over-week (WoW)?
4. What are the average daily rate (ADR) and revenue per available room (RevPAR)?

## KPIs and Metrics:

- Total Revenue
- Cumulative Revenue
- Month-over-Month (MoM) and Week-over-Week (WoW) Growth
- Moving Average of Revenue
- Average Daily Rate (ADR)
- Revenue per Available Room (RevPAR)



## Things before we go

1. we assume that there is no holidays in the given dataset as we have only three months of data.
2. we considered saturday & sunday as weekends.
3. we have cleaned given data as per our requirement using power query editor
4. for further use we added new column for length of stay(LOS)
5. As we kept money of “no show”, we considered it as checked out when it comes to occupancy
6. we refuned 60% of booking amount after cancellation

# Supporting Measures

For further DAX we need these measures to execute new measures easily

```
1 checked_out_revenue = CALCULATE([revenue],bookings[booking_status]="checked out")
```

Earning from cancelled



Earning from checked out

```
1 cancelled_revenue = CALCULATE([revenue],bookings[booking_status]="cancelled")
```

Earning from no show



```
1 No_show_revenue = CALCULATE([revenue],bookings[booking_status]="no show")
```

```
1 cancelled = CALCULATE(COUNTROWS(bookings),bookings[booking_status]="Cancelled")
```

counting of cancelled booking

counting of no show booking

```
1 no show = CALCULATE(COUNTROWS(bookings),bookings[booking_status]="No Show")
```

```
1 checkout = CALCULATE(COUNTROWS(bookings),bookings[booking_status]="Checked Out")
```

counting of checked out  
booking

# DAX to calculate finance

```
1  wow % growth =  
2  
3  var wow = CALCULATE([revenue],FILTER(ALL('calendar'),'calendar'[weeknum]=MAX('calendar'[weeknum])-1))  
4  
5  RETURN DIVIDE([revenue]-wow,wow,0)
```

```
1  cumulative_revenue = CALCULATE([revenue],FILTER(ALL('calendar'),'calendar'[Date]<=MAX('calendar'[Date])))
```

```
1  ADR =  
2  
3  var a = DIVIDE([checked_out_revenue]+[No_show_revenue],[checkout]+[no show])  
4  
5  var b = DIVIDE([cancelled_revenue],[cancelled]*0.4)  
6  
7  RETURN (a+b)/2
```

```
1  revPAR = [revenue]/SUM(occupancy[capacity])
```

```
1  revenue = SUM(bookings[revenue_realized])
```

```
1  mom%growth =  
2  
3  var mom = CALCULATE([revenue],DATEADD('calendar'[Date],-1,MONTH))  
4  
5  RETURN DIVIDE([revenue]-mom,mom,0)
```

These measures are for calculating revenue, cumulative revenue,MoM growth,WoW growth,ADR & revPAR



Revenue	MOM Growth	wow Growth	RevPAR	ADR
₹1.71bn	50.44%	1385.34%	₹7.35K	₹14.9...

Occupancy

Bookings

Cancellations

category

All

Date

01-05-2022

31-07-2022

monthname

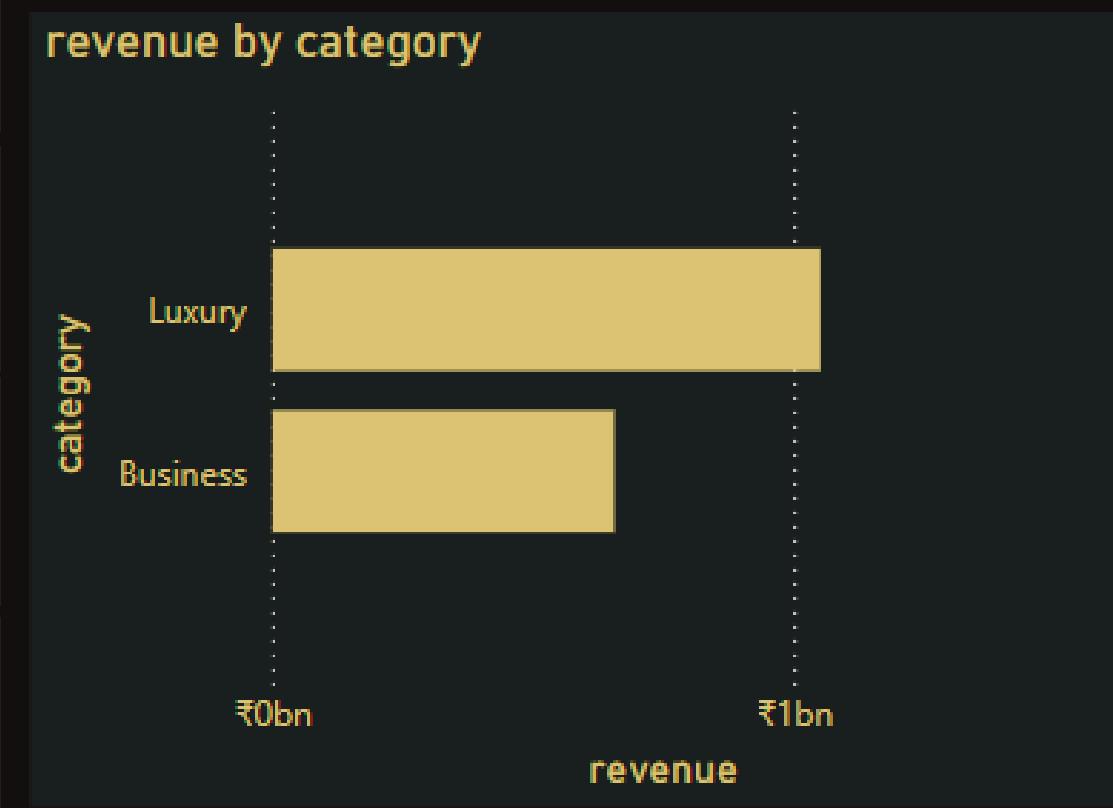
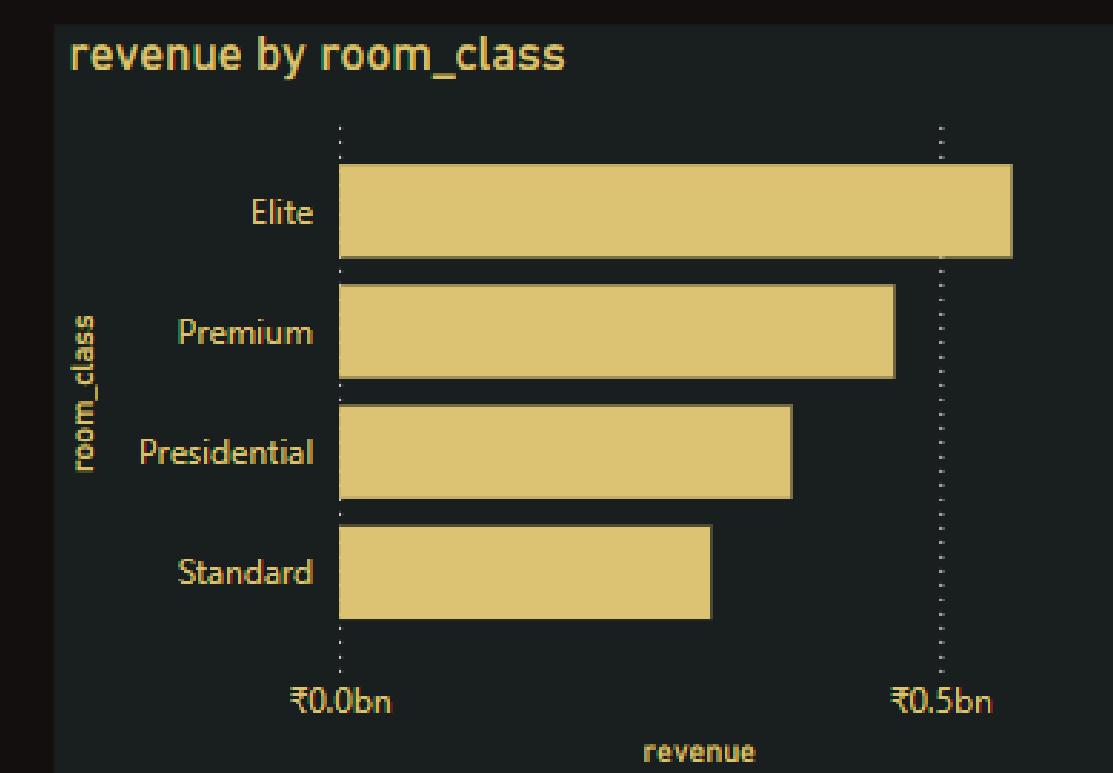
All

weeknum

All

room\_class

All



Date	cumulative_revenue
31-07-2022	₹1,70,87,71,229.00
30-07-2022	₹1,68,77,60,868.00
29-07-2022	₹1,66,67,79,395.00
28-07-2022	₹1,65,18,74,623.00
27-07-2022	₹1,63,71,95,439.00
26-07-2022	₹1,62,27,57,376.00
25-07-2022	₹1,60,81,46,157.00
24-07-2022	₹1,59,35,28,945.00
23-07-2022	₹1,57,27,18,543.00
22-07-2022	₹1,55,15,29,377.00
21-07-2022	₹1,53,66,44,269.00
20-07-2022	₹1,52,20,41,271.00
19-07-2022	₹1,50,76,27,474.00
18-07-2022	₹1,49,33,31,191.00
17-07-2022	₹1,47,87,49,909.00
16-07-2022	₹1,45,79,07,395.00
15-07-2022	₹1,43,20,12,858.00
14-07-2022	₹1,41,45,01,968.00
13-07-2022	₹1,39,66,33,781.00
12-07-2022	₹1,37,90,43,953.00
11-07-2022	₹1,36,12,36,182.00
10-07-2022	₹1,34,35,89,848.00
09-07-2022	₹1,31,81,76,805.00
08-07-2022	₹1,29,25,99,534.00
07-07-2022	₹1,27,47,20,502.00
06-07-2022	₹1,25,72,12,606.00
Total	₹1,70,87,71,229.00

# revenue summary



The total revenue is ₹1.71B, with 50.44% MoM growth and 1385.34% WoW growth. Luxury & premium rooms dominate, with Mumbai, Delhi, and Bangalore as top-performing cities. ITC Exotica leads in revenue. Business category lags behind luxury. Significant growth spikes suggest peak periods or promotions.



# Occupancy & Capacity Analysis

Key Questions to Answer:

- What is the occupancy rate for each hotel and room category?
- How does occupancy fluctuate seasonally or over specific periods (e.g., weekends, holidays)?
- What is the cumulative occupancy trend and occupancy growth (MoM and WoW)?
- How does occupancy correlate with revenue and RevPAR?

KPIs and Metrics:

- Occupancy Rate



# Measures for occupancy & capacity

```
1 1 wow occupancy =  
2  
3 var a = CALCULATE([occupancy_rate],FILTER(ALL('calendar'),'calendar'[weeknum]=MAX('calendar'[weeknum])-1))  
4  
5 RETURN DIVIDE([occupancy_rate]-a,a,0)
```

```
1 occupancy_rate = ([no show] + [checkout])/(SUM(occupancy[capacity]))
```

```
1 occupancy = [checkout]+[no show]
```

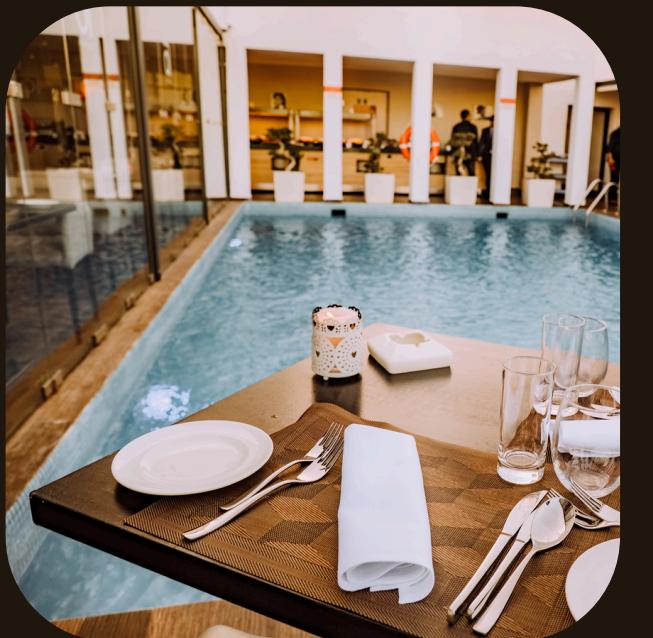
```
1 mom_occupancy =  
2 var a = CALCULATE([occupancy_rate],DATEADD('calendar'[Date],-1,MONTH))  
3  
4 RETURN DIVIDE([occupancy_rate]-a,a,0)
```

```
occupancy and revenue correlation for Date =  
VAR __CORRELATION_TABLE = VALUES('calendar'[Date])  
VAR __COUNT =  
COUNTX(  
    KEEPFILTERS(__CORRELATION_TABLE),  
    CALCULATE([occupancy_rate] * [revenue])  
)  
VAR __SUM_X = SUMX(KEEPFILTERS(__CORRELATION_TABLE), CALCULATE([occupancy_rate]))  
VAR __SUM_Y = SUMX(KEEPFILTERS(__CORRELATION_TABLE), CALCULATE([revenue]))  
VAR __SUM_XY =  
SUMX(  
    KEEPFILTERS(__CORRELATION_TABLE),  
    CALCULATE([occupancy_rate] * [revenue] * 1.)  
)  
VAR __SUM_X2 = SUMX(KEEPFILTERS(__CORRELATION_TABLE), CALCULATE([occupancy_rate] ^ 2))  
VAR __SUM_Y2 = SUMX(KEEPFILTERS(__CORRELATION_TABLE), CALCULATE([revenue] ^ 2))  
RETURN  
    DIVIDE(  
        __COUNT * __SUM_XY - __SUM_X * __SUM_Y * 1.,  
        SQRT(  
            (__COUNT * __SUM_X2 - __SUM_X ^ 2)  
            * (__COUNT * __SUM_Y2 - __SUM_Y ^ 2)  
)  
)
```



Revenue	Occupancy	mom occupancy	wow occupancy	correlation
₹1.71bn	43.50%	-0.12%	12.74%	1.00





# correlation

The correlation between occupancy and revenue/RevPAR is 1.00, indicating a perfect positive relationship. As occupancy increases, both revenue and RevPAR rise proportionally. This suggests that maximizing occupancy directly boosts financial performance, emphasizing the need for effective pricing, promotions, and demand forecasting to optimize profitability.

# occupancy summary

The occupancy rate is 43.50%, with a 12.74% week-over-week growth but a slight -0.12% month-over-month decline. The correlation between occupancy and RevPAR is 1.00, indicating a direct relationship. Elite and Presidential rooms have the highest occupancy. Trends show fluctuations in occupancy rates over time.



# Room Category Performance & Booking Insights

## Key Questions to Answer:

- Which room categories generate the most revenue?
- How do booking patterns (lead time, check-in dates) affect revenue and occupancy?
- What is the average length of stay (ALOS) for each hotel and room type?
- What is the room revenue trend (including running total and MoM/WoW growth)?

## KPIs and Metrics:

- Average Length of Stay (ALOS)
- Booking Lead Time: Average time between booking and check-in.



# Measures for bookings

```
1 ALOS = AVERAGE(bookings[LOS])
```

```
1 avg_day_prior_to_booking = AVERAGE(bookings[day prior to booking])
```



Finances

Occupancy

Cancellations

category

Date



monthname

weeknum



room\_class

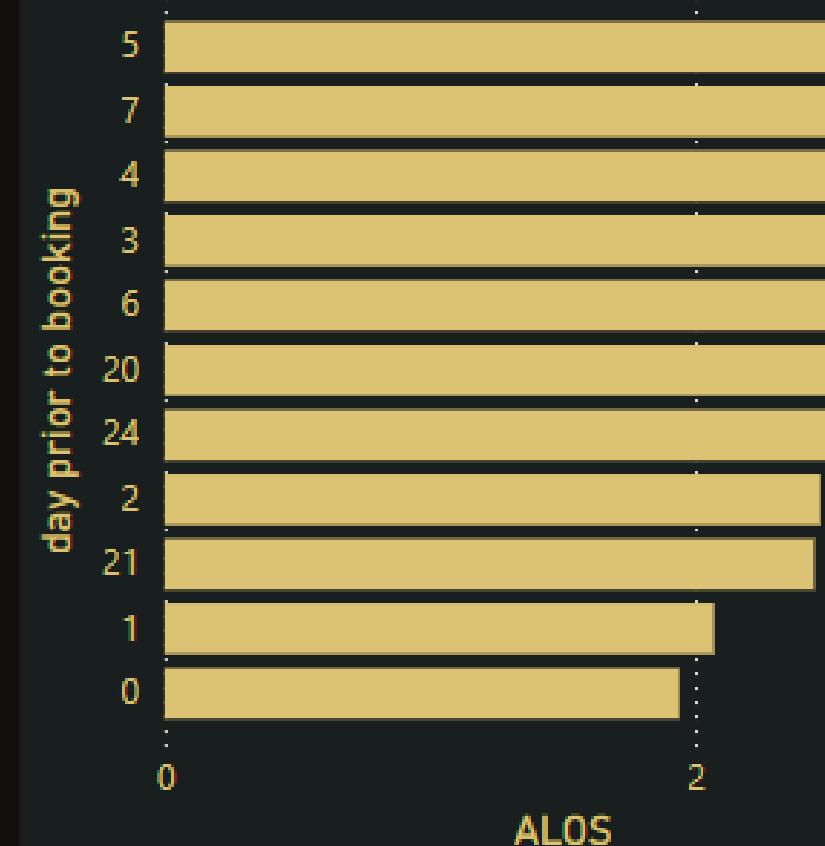
avg\_day\_prior

**3.71**

ALOS

**2.37**

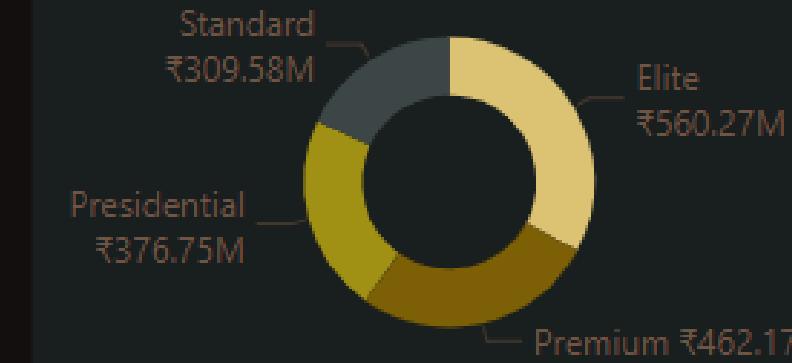
### ALOS by day prior to booking



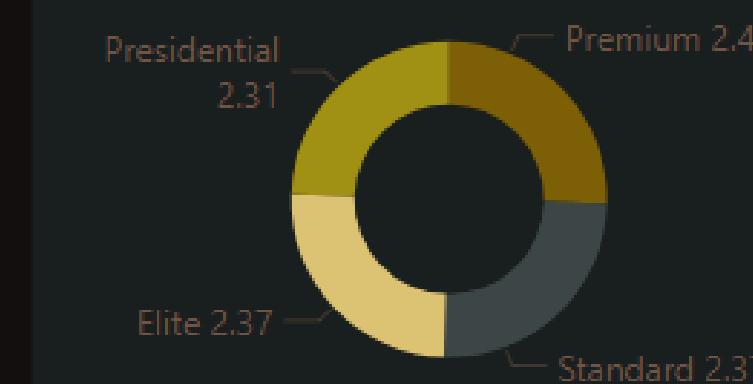
### revenue by category



### revenue by room\_class



### ALOS by room\_class



### ALOS by Hotel & Room Class

property_id	Elite	Premium	Presidential	Standard	Total
16558	2.84	2.79	2.83	2.67	<b>2.77</b>
16561	2.79	2.78	2.73	2.75	<b>2.77</b>
18561	2.79	2.87	2.78	2.66	<b>2.77</b>
18559	2.76	2.74	2.78	2.77	<b>2.77</b>
17558	2.76	2.75	2.80	2.77	<b>2.76</b>
17559	2.73	2.84	2.80	2.72	<b>2.76</b>
17561	2.76	2.77	2.60	2.76	<b>2.75</b>
18562	2.73	2.79	2.74	2.73	<b>2.75</b>
19562	2.71	2.74	2.78	2.76	<b>2.75</b>
16562	2.77	2.65	2.57	2.77	<b>2.73</b>
17562	2.77	2.66	2.76	2.73	<b>2.73</b>
16559	2.77	2.69	2.71	2.71	<b>2.72</b>
19561	2.68	2.75	2.57	2.78	<b>2.72</b>
19559	2.67	2.75	2.80	2.74	<b>2.72</b>
18558	2.72	2.75	2.74	2.54	<b>2.70</b>
19558	2.67	2.65	2.68	2.75	<b>2.70</b>
18563	1.82	1.83	1.75	1.78	<b>1.80</b>
17564	1.87	1.74	1.73	1.74	<b>1.79</b>
18560	1.80	1.78	1.77	1.77	<b>1.78</b>
17563	1.76	1.77	1.77	1.79	<b>1.77</b>
<b>Total</b>	<b>2.37</b>	<b>2.41</b>	<b>2.31</b>	<b>2.37</b>	<b>2.37</b>

### ALOS by property\_id



# booking summary

The Average Length of Stay (ALOS) is 2.37 days, with an average booking lead time of 3.71 days. The Premium category has the highest ALOS (2.41 days), while Presidential rooms have the lowest (2.31 days). Revenue is highest in the Elite category (₹560.27M), followed by Premium (₹462.17M), Presidential (₹376.75M), and Standard (₹309.58M). Luxury bookings generate more revenue than Business bookings. The ALOS varies across properties, with most staying around the average of 2.37 days.



# Cancellations & Lost Revenue Analysis

## Key Questions to Answer:

- What is the cancellation rate for each hotel and room category?
- How have cancellation trends changed over time (MoM/WoW)?
- What is the lost revenue due to cancellations?
- Are there any patterns in cancellations (e.g., specific room types, time of year)?

## KPIs and Metrics:

- Cancellation Rate:
- Cumulative Cancellations
- Lost Revenue due to Cancellations:
- Cancellation Growth (WoW)



# Measures for cancellation slides

```
1 cancellation rate = DIVIDE([cancelled],COUNTROWS(bookings),0)
```

```
1 cumulative cancellation = CALCULATE([cancelled],FILTER(ALL('calendar'),'calendar'[Date]
<=MAX('calendar'[Date])))
```

```
1 MOM % cancellation growth =
2
3 VAR mom = CALCULATE([cancellation rate],DATEADD('calendar'[Date],-1,MONTH))
4
5 RETURN DIVIDE([cancellation rate]-mom,mom,0)
```

```
1 wow cancellation growth =
2 var wow = CALCULATE([cancellation rate],FILTER(ALL('calendar'),'calendar'[weeknum]=MAX
('calendar'[weeknum])-1))
3 RETURN DIVIDE([cancellation rate]-wow,wow,0)
```



cancellation rate

24.83%

lost revenue

₹20.05K

wow cancellation

2.14%

cumulative cancellation

33K

MOM cancellation

-0.75%

Finances

Occupancy

Bookings

category

All

Date

01-05-2022

31-07-2022

monthname

All

weeknum

19

32

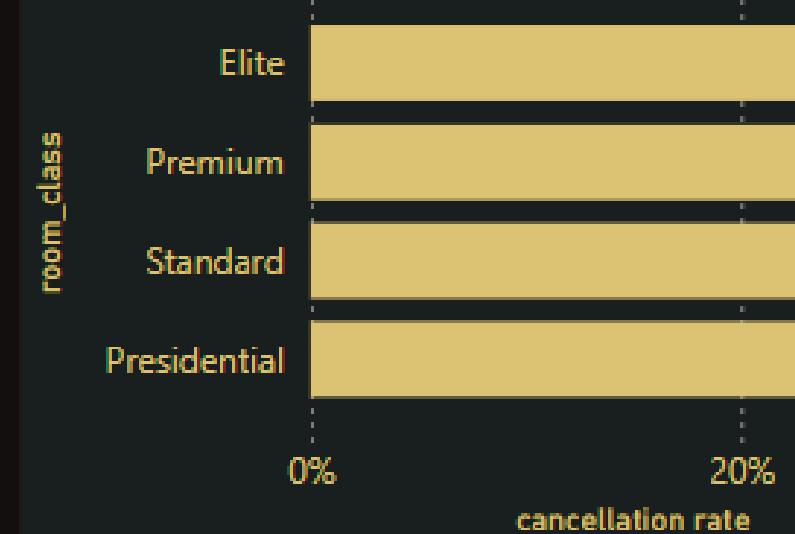
room\_class

All

cancellation rate by property\_id



cancellation rate by room\_class



weeknum | cancelled | cumulative cancellation

weeknum	cancelled	cumulative cancellation
19	2779	2779
20	2711	5490
21	2226	7716
22	2772	10488
23	2222	12710
24	2797	15507
25	2748	18255
26	2299	20554
27	2691	23245
28	2643	25888
29	2733	28621
30	2210	30831
31	2193	33024
Total	33420	33420

weeknum | cancellation rate | wow cancellation growth

weeknum	cancellation rate	wow cancellation growth
24	25.33%	3.62%
22	25.35%	2.98%
29	24.80%	2.57%
26	25.50%	1.53%
19	25.34%	0.00%
21	24.62%	-0.49%
31	24.31%	-0.78%
25	25.11%	-0.87%
30	24.50%	-1.22%
32	23.99%	-1.33%
28	24.18%	-1.49%
20	24.74%	-2.38%
23	24.45%	-3.57%
27	24.55%	-3.72%
Total	24.83%	2.14%

Month | cancellation rate | MOM % cancellation growth

Month	cancellation rate	MOM % cancellation growth
May	24.95%	0.00%
June	25.09%	0.57%
July	24.46%	-2.51%
Total	24.83%	-0.75%

# cancellation summary

The cancellation rate is 24.83%, with a week-over-week (WoW) increase of 2.14% but a month-over-month (MoM) decline of 0.75%. A total of 33K bookings were canceled, leading to an estimated lost revenue of ₹20.05K. The highest cancellation rates are observed in certain properties, with Elite and Premium rooms experiencing the most cancellations. Weekly trends show fluctuations, with some weeks exceeding 25% cancellation rates. The cancellation rate slightly declined in July (24.46%) compared to June (25.09%), indicating a marginal improvement.



# Recommendations to Improve Numbers:

## 1. Increase Occupancy & Direct Bookings

*Offer Limited-Time Promotions:* Provide exclusive discounts for direct bookings through the ITC website instead of third-party platforms.

*Loyalty Programs:* Enhance existing membership benefits to encourage repeat stays.

*Corporate Tie-ups:* Partner with businesses for corporate stay packages.

## 2. Reduce Cancellations

*Flexible Booking Policy:* Offer non-refundable discounts to lock in revenue.

*Cancellation Fees for Last-Minute Cancellations:* Implement stricter policies to minimize no-shows.

### **3. Improve High-Revenue Room Class Performance**

*Upsell Premium Rooms:* Provide room upgrades or bundle premium rooms with complimentary services (spa, dining, etc.).

*Personalized Marketing:* Use guest preferences to recommend room upgrades.

### **4. Boost City-Wise Revenue**

*Targeted Marketing for Low-Performing Cities:* Use geo-targeted ads to attract tourists.

*Influencer Collaborations:* Work with travel bloggers to promote stays in underperforming cities.

### **5. Optimize Revenue Management**

*Dynamic Pricing Strategy:* Adjust room rates based on demand trends.

*Weekend & Holiday Packages:* Introduce curated experiences to boost off-peak occupancy.



# Contact Information

I'm Sagar Kumar of cohort 3 from WS Cubetech  
Representing the analysis of ITC Hotel by using  
power BI dashboard



GMAIL

Sagarburman49@gmail.com



LINKEDIN

[www.linkedin.com/in/sagar49](https://www.linkedin.com/in/sagar49)





THANK YOU