

# **HOTEL RESERVATION ANALYSIS**

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**Unveiling Insights from a Comprehensive Hotel Reservation  
Dataset (2015-2017)**

# AGENDA

Introduction

Data Import

Data Exploration

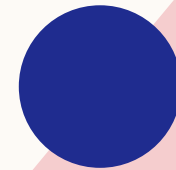
SQL Analysis

Tableau Visualization

GitHub Repository

Tableau Dashboards publishing

Conclusion





# DATA IMPORT

Data Import was done via postgres sql, powerbi and tableau to allow for thorough data cleansing on powerbi, querying on postgres sql and visualization on both power bi and Tableau to allow for comparisons

# INTRODUCTION

Welcome to an in-depth exploration of the hotel industry's intricacies through a rich dataset spanning the years 2015 to 2017. In this presentation, we delve into the multifaceted dynamics of hotel reservations, customer behaviors, and revenue patterns.

Our journey uncovers valuable insights into booking trends, pricing dynamics, customer segmentation, and more. As we navigate through the data, we'll discover the stories it tells about occupancy rates, booking channels, room preferences, and strategic decision-making in the hospitality landscape.

Join us on this insightful journey through the heart of hotel operations, where data illuminates the path to informed decision-making and revenue optimization.

# DATA EXPLORATION

	Rows of data	Columns provided	Extra columns /measures created for analysis	Columns used for analysis
2015	119,390	32	7	10
2016	119,390	32	7	10
2017	119,390	32	7	10



**“ 'RISK COMES FROM NOT  
KNOWING WHAT YOU'RE DOING.'  
”**

Warren Buffett

IN THIS EXPLORATION,

KNOWLEDGE IS OUR COMPASS, GUIDING US TO INFORMED DECISIONS AND STRATEGIC TRIUMPHS..

# PLAN FOR THE PRESENTATION



## DATA EXPLORATION

In the preliminary stages of analysis, the dataset underwent a thorough exploration. Patterns, anomalies, and hidden narratives



## KEY METRIC ANALYSIS

Using SQL and tableau, I was able to query and get information like total revenue, cancellation rate, customer type to mention a few



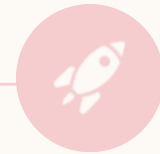
## TABLEAU VISUALIZATION

Detailed views and a good dashboard were generated.



## POWERBI STRATEGY

Detailed views and a good dashboard were generated.



## CONCLUSION

In summary, this dataset provides a rich source for strategic decision-making, customer-centric approaches, and revenue optimization in the dynamic hospitality industry.

# SQL ANALYSIS

## SQL ANALYSIS

1. I ensured the entire data set was loaded the row

```
SELECT COUNT(*) AS Complete_NO_OF_REC
FROM hotel_bookings
```

Complete NO OF RECORDS: 119390

## 2. What is the cancellation rate for each hotel?

```
SELECT hotel,
       ROUND(AVG(is_canceled), 3) AS CANCELLATIONS
FROM hotel_bookings
GROUP BY hotel;
```

Data Output	Explain	Messages	Notifications	Scratch Pad
hotel text		cancellations numeric		
1 City Hotel		0.417		
2 Resort H...		0.278		

## 3. Most common customer type

```
SELECT customer_type, COUNT(*)
FROM hotel_bookings
GROUP BY customer_type
ORDER BY COUNT(*) DESC
```

Data Output	Explain	Messages	Notifications	Scratch Pad
customer_type text		customer_type_analysis bigint		
1 Transient			89613	
2 Transient-Party			25124	
3 Contract			4076	
4 Group			577	

## 4. Most common country of guests?

```
SELECT country, COUNT(*) as relevant_countries
FROM hotel_bookings
GROUP BY country
ORDER BY COUNT(*) DESC
LIMIT 3
```

Data Output	Explain	Messages	Notifications	Scratch Pad
country text		relevant_countries bigint		
1 PRT			48590	
2 GBR			12129	
3 FRA			10415	

The most engaging month

```
SELECT arrival_date_month, COUNT(*) AS reservationsforme
FROM hotel_bookings
GROUP BY arrival_date_month
ORDER BY reservationsforme DESC
```

Data Output	Explain	Messages	Notifications	Scratch Pad
arrival_date_month text		reservationsforme bigint		
1 August			13877	
2 July			12661	
3 May			11791	
4 October			11160	
5 April			11089	
6 June			10939	
7 September			10508	
8 March			9794	
9 February			8068	

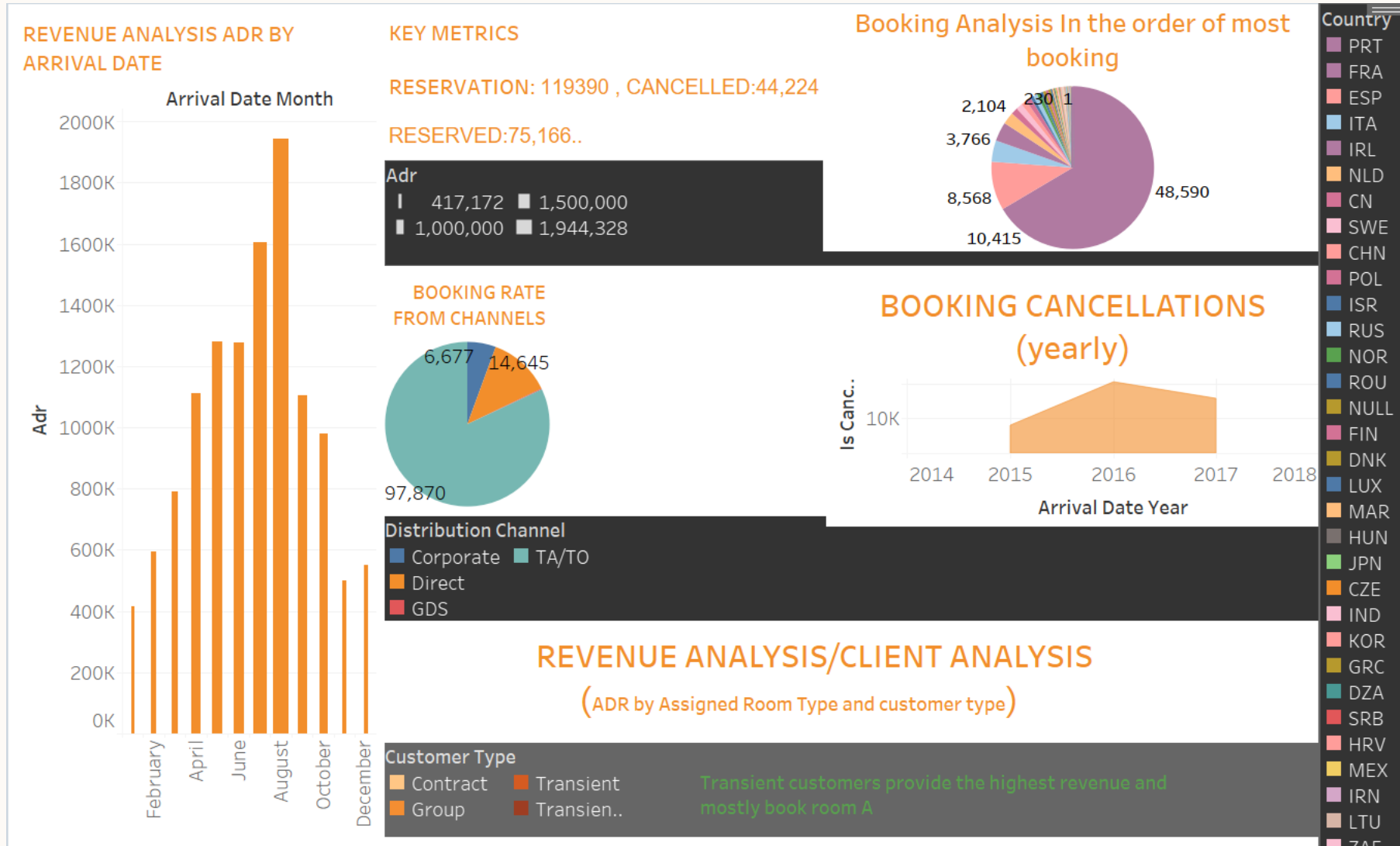
## 5. Are the guests that reserve new or repeated?

```
SELECT is_repeated_guest, COUNT(*) AS guests_count
FROM hotel_bookings
GROUP BY is_repeated_guest
```

Data Output	Explain	Messages	Notifications	Scratch Pad
is_repeated_guest integer		guests_count bigint		
1		0	115580	
2		1	3810	



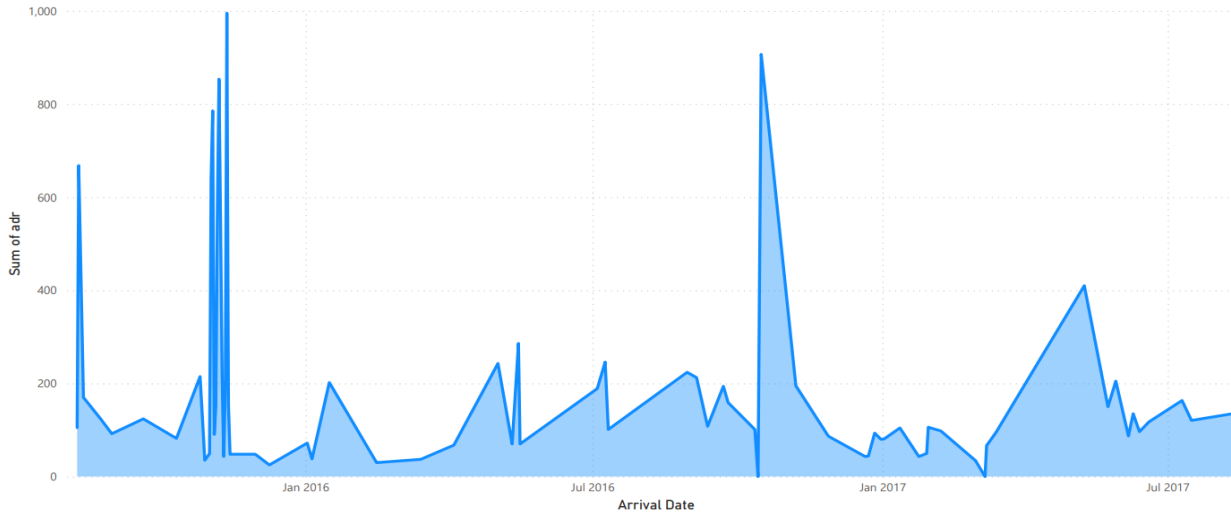
# TABLEAU VISUALIZATION



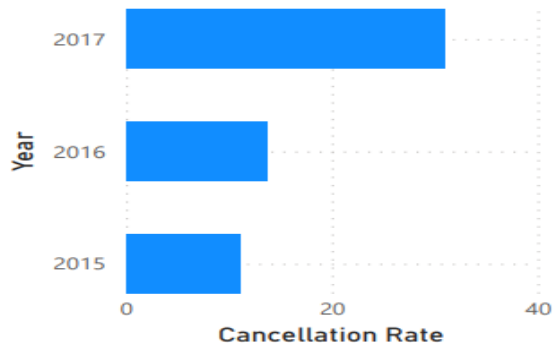
# POWERBI VISUALIZATION

10

Sum of adr by Arrival Date



Cancellation Rate by Year

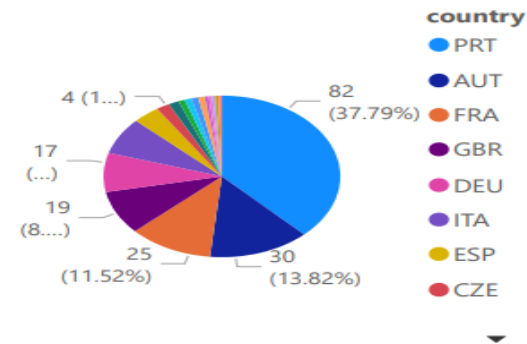


Cancellation Rate trended up, resulting in a 177.93% increase between 2015 and 2017.

Cancellation Rate started trending up on 2015, rising by 177.93% (19.85) in 2 years.

Cancellation Rate jumped from 11.15 to 31 during its steepest incline between 2015 and 2017.

CountBookings by country

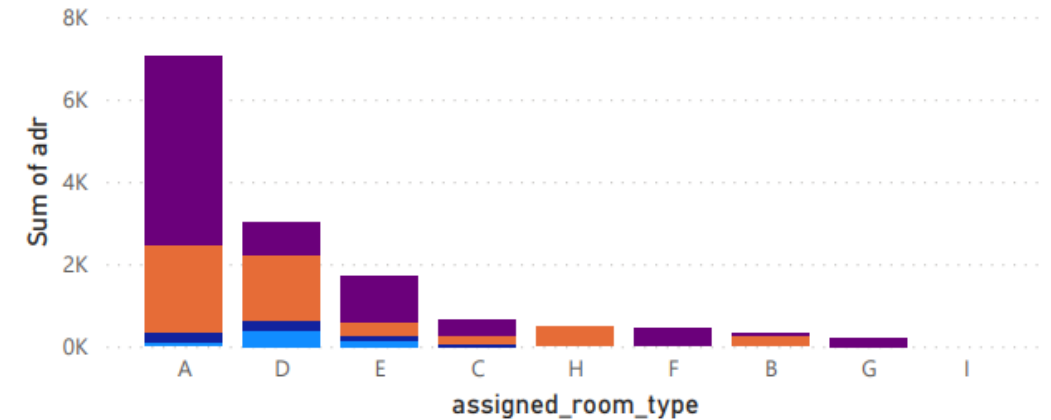


CountBookings was highest for PRT at 82, followed by AUT and FRA.

PRT accounted for 37.79% of CountBookings.

Sum of adr by assigned\_room\_type and customer\_type

customer\_type Contract Group Transient Transient-Party

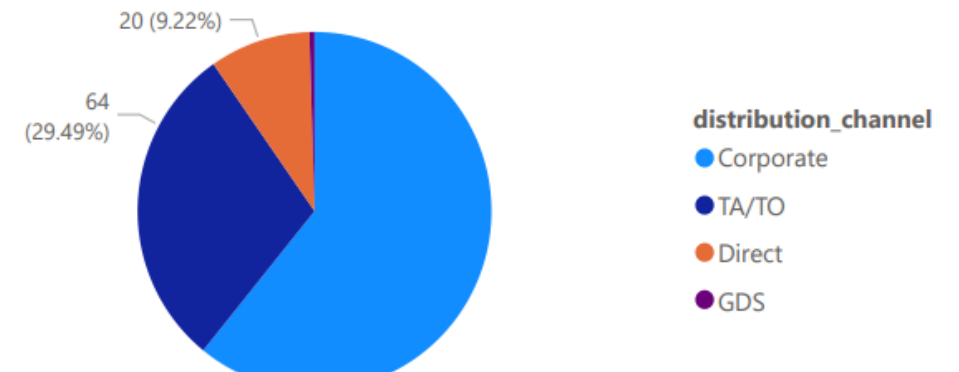


Transient-Party had the highest total Sum of adr at 7,577.51, followed by Transient, Contract, and Group.

A in customer\_type Transient-Party made up 33.26% of Sum of adr.

Transient-Party had the highest average Sum of adr at 947.19, followed by Transient, Contract, and Group.

BookingChannelsCount by distribution\_channel



Corporate had the highest BookingChannelsCount at 132, followed by TA/TO, Direct, and GDS.

RETORIATING ANALYSIS FOR BRAIN STORMING—MOVING FORWARD



REVENUE  
ANALYSIS ADR

The highest spike in revenue was recorded on the 7th of January 2015 at higher than 800 and the lowest average revenue generated was on the 7th of march 2017 at 0.



SEASONAL  
ANALYSIS

Looking through for seasonal patterns, November which is close to the Christmas celebration period seems like the highest time for booking with the highest revenue generated closely followed by January. The December periods seemed less engaging which is likely because people spend the festive periods with family.



CUSTOMER  
SEGMENT

Transient-Party has the highest total ADR at \$7,577.51. This indicates that, overall, this customer type contributes the most to the hotel's revenue



BOOKING  
TYPES

Corporate Dominance: Corporate bookings have the highest BookingChannelsCount, representing 60.83% of total bookings. This suggests a significant portion of the hotel's clientele comes from corporate entities.



BOOKING PER  
COUNTRY

Count booking by countryCountBookings was highest for PRT at 37.79%

# AREAS OF FOCUS

BOOKINGS

REVENUE

NICHE MARKETS

DIVERSIFICATION

# HOW WE GET THERE



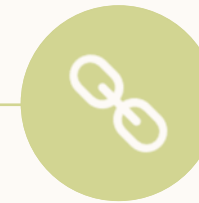
## ROI

- This Pricing Dynamics should be shuffled between those peak and low months to attract more bookings at low peak periods.
- Pricing Strategy: The high average ADR for Transient-Party suggests that this customer type is willing to pay a premium for the services provided. The hotel might consider fine-tuning its pricing strategy for other customer types to maximize overall revenue without compromising customer satisfaction.



## NICHE MARKETS

- Marketing and Service Alignment: Understanding the characteristics of Transient-Party guests could inform marketing strategies to attract similar customers.
- GDS Niche Market: - The low percentage from GDS indicates a niche market. Explore opportunities to expand this segment, possibly by identifying the unique needs of GDS users and tailoring offerings accordingly

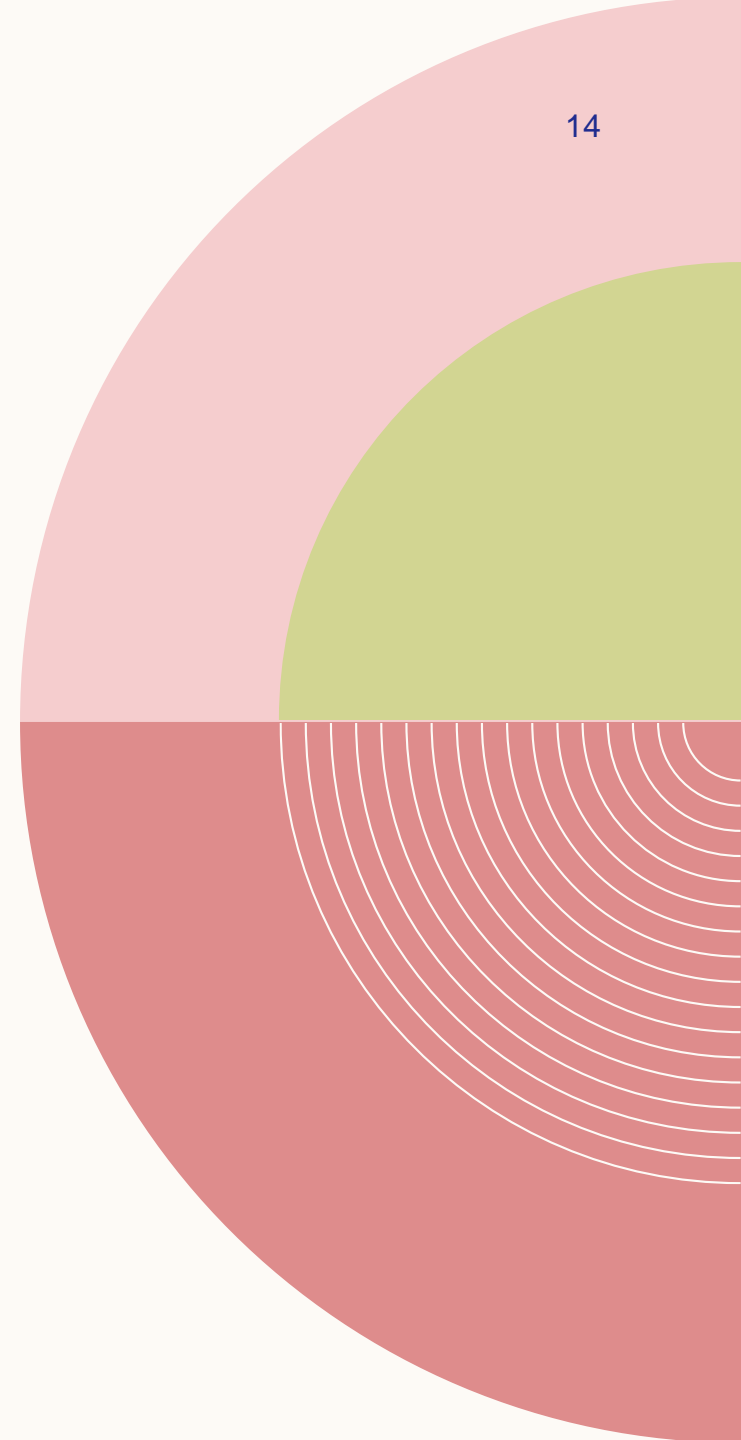
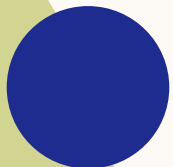


## DIVERSIFICATION

- Diversification: While Transient-Party is dominant, it's essential to maintain a balance among customer types.
- Diversification can mitigate risks associated with dependency on a single segment and could help in optimizing revenue streams.

# IN CONCLUSION

Notable findings include substantial ADR spikes on January 7, 2015, and a peak in November, indicating seasonal patterns. Transient-Party customers dominate revenue, emphasizing the need for strategic alignment. Corporate bookings lead, while Travel Agents/Operators (TA/TO) play a significant role. Room type occupancy analysis reveals November as a peak period, with Room A being most occupied. Average Room Rate exhibits an 85.98% increase from 2015 to 2017, underscoring pricing dynamics. The dataset also highlights trends in average length of stay and cancellation rates. Count of bookings by country identifies Portugal (PRT) as the leader, contributing 37.79% of total bookings. In summary, this dataset provides a rich source for strategic decision-making, customer-centric approaches, and revenue optimization in the dynamic hospitality industry.



# THANK YOU

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GitHub Repository

link:<https://github.com/Akinyemibolatito/Hotel-resevation-dataset>

Tableau Dashboards

publishing:[https://public.tableau.com/shared/JF3BWRWFT?:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/shared/JF3BWRWFT?:display_count=n&:origin=viz_share_link)