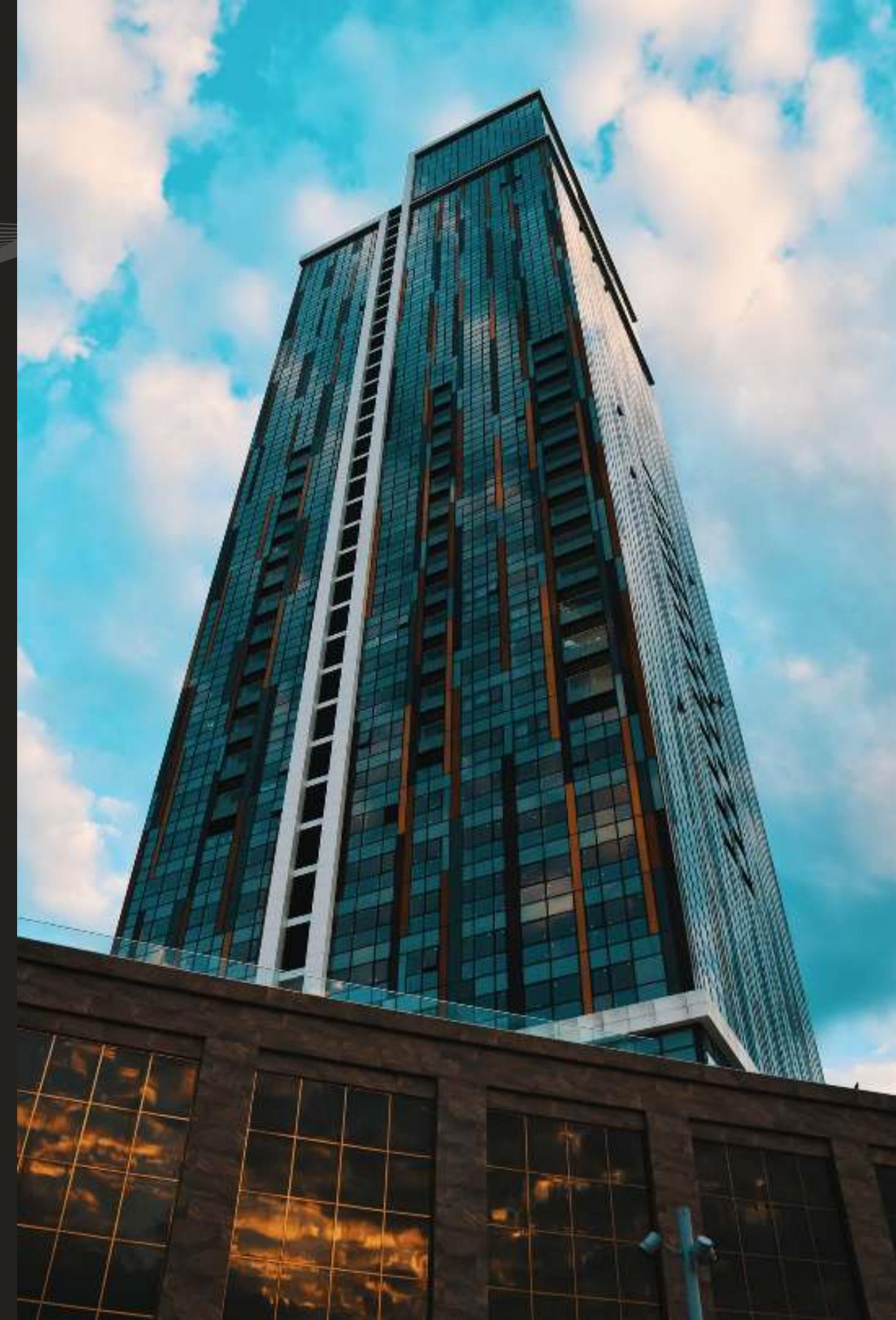


HOTEL  
RESERVATION  
ANALYSIS

PROJECT



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# Introduction

The hospitality industry heavily relies on data analysis to understand customer behavior, improve service quality, and enhance guest satisfaction.

This project focuses on analyzing hotel reservation data using SQL to uncover meaningful insights and trends.

# *Data Source & Methodology*

## **Data Source**

The dataset used in this project consists of reservation data obtained from [Insert Source]. It includes information such as reservation dates, guest demographics, room types, and length of stay.

## **Methodology**

The analysis is performed using SQL queries to extract, transform, and analyze the data. Various SQL functions and techniques are utilized to derive key metrics and perform statistical analysis.

# Objectives

The objective of a hotel reservation analysis project can vary based on specific goals and requirements. However, here are some common objectives: Enhance guest experience, Improve Operational Efficiency, forecast future demand, Support Strategic Decision Making



# The Project

The Hotel Reservation Analysis by SQL project aims to analyze reservation data from a hotel database using SQL queries.

By achieving these objectives, a hotel reservation analysis project aims to optimize hotel operations, enhance guest satisfaction, and ultimately drive business success.



The background image shows a dense urban landscape with numerous skyscrapers of varying heights. In the foreground, there's a prominent building with a curved facade and a blue sign that reads "EMAR". To the right, a large body of water is visible with several boats and yachts docked at a marina. The overall atmosphere is futuristic and sophisticated.

# PROJECT DETAILS

What is the total number of reservations in the dataset?

```
select count(Booking_ID)  
from hotelreservation.hotel;
```

	count(Booking_ID)
▶	686

# Which meal plan is the most popular among guests?

```
select type_of_meal_plan from hotel
group by type_of_meal_plan
having count(Booking_ID) in
(select max(b.top) from
(select count(Booking_ID) as top from hotel group by type_of_meal_plan)
as b);
```

	type_of_meal_plan
▶	Meal Plan 1

What is the average price per room  
for reservations involving children?

```
select avg(avg_price_per_room), room_type_reserved  
from hotel where no_of_children>0  
group by room_type_reserved;
```

	avg(avg_price_per_room)	room_type_reserved
▶	112.07800000000002	Room_Type 2
	185.32823529411766	Room_Type 6
	123.12291666666665	Room_Type 1
	86.32	Room_Type 4
	187.04	Room_Type 7

# How many reservations were made for the year 2018?

```
select count(Booking_ID) from hotel  
where arrival_date LIKE '%2018';
```

	count(Booking_ID)
▶	567

# What is the most commonly booked room type?

```
select room_type_reserved, count(Booking_ID) as bookings from hotel
group by room_type_reserved
having count(Booking_ID) in
    (select max(b.top) from
        (select count(Booking_ID) as top from hotel group by room_type_reserved)
        as b);
```

	room_type_reserved	bookings
▶	Room_Type 1	524

# How many reservations fall on a weekend?

```
select count(*) from hotel  
where no_of_weekend_nights>0 and booking_status='Not_canceled';
```

	count(*)
▶	257

# What is the highest and lowest lead time for reservations?

```
select distinct lead_time as min_lead_time from hotel  
where lead_time<=all(select lead_time from hotel);
```

```
select distinct lead_time as max_lead_time from hotel  
where lead_time>=all(select lead_time from hotel);
```

	min_lead_time
▶	0

	max_lead_time
▶	443

# What is the most common market segment type for reservations?

```
select market_segment_type, count(Booking_ID) as Market_segment
from hotel group by market_segment_type
having count(Booking_ID) in
(select max(b.top) from
(select count(Booking_ID) as top from hotel
group by market_segment_type) as b);
```

	market_segment_type	Market_segment
▶	Online	518

# How many reservations have a booking status of "Confirmed"?

```
select count(*) from hotel where booking_status='Not canceled';
```

	count(*)
▶	479

What is the total number of adults and children across all reservations?

```
select sum(no_of_adults) as adults, sum(no_of_children) as children,  
room_type_reserved from hotel group by room_type_reserved;
```

	adults	children	room_type_reserved
>	946	25	Room_Type 1
	283	1	Room_Type 4
	10	10	Room_Type 2
	35	31	Room_Type 6
	8	0	Room_Type 5
	15	2	Room_Type 7

What is the average number of weekend nights for reservations involving children?

```
SELECT AVG(no_of_weekend_nights) AS avg_weekend_nights_with_children  
FROM hotel WHERE no_of_children > 0;
```

	avg_weekend_nights_with_children
▶	1.0000

What is the average number of nights (both weekend and weekday) spent by guests for each room type?

```
SELECT
    room_type_reserved, AVG(total_nights) AS avg_nights
FROM
    (SELECT room_type_reserved,
        SUM(no_of_weekend_nights + no_of_week_nights) AS total_nights
    FROM hotel
    GROUP BY room_type_reserved) AS subquery
GROUP BY
    room_type_reserved;
```

	room_type_reserved	avg_nights
▶	Room_Type 1	1521.0000
	Room_Type 4	489.0000
	Room_Type 2	23.0000
	Room_Type 6	65.0000
	Room_Type 5	10.0000
	Room_Type 7	15.0000

For reservations involving children, what is the most common room type, and what is the average price for that room type?

```
select room_type_reserved, avg(avg_price_per_room) from hotel
group by room_type_reserved
having count(Booking_ID) in
(select max(b.top) from
(select count(Booking_ID) as top from hotel group by room_type_reserved)
as b);
```

	room_type_reserved	avg(avg_price_per_room)
▶	Room_Type 1	98.74496091603053

Find the market segment type that generates the highest average price per room.

```
select market_segment_type as Highest_market_segment,  
avg_price_per_room from hotel  
where avg_price_per_room>=all(select avg_price_per_room from hotel);
```

	Highest_market_segment	avg_price_per_room
▶	Online	258

# Gallery



# Results and Analysis

The findings of the analysis are presented, including visualizations and key insights derived from the data. Trends, patterns, and correlations discovered through SQL queries are discussed in detail.



## CONCLUSION

The project concludes with a summary of the main findings and their implications for hotel management. Recommendations for improving guest experience, optimizing room allocation, and maximizing revenue are provided based on the analysis results.

*Gerente General*

# Resource page

