Hotel Reservation Analysis

WITH SQL

Overview

- BY FOCUSING ON THESE KEY AREAS, THE PRESENTATION WILL PROVIDE A COMPREHENSIVE OVERVIEW OF THE HOTEL DATA AND THE INSIGHTS DERIVED FROM THE DATA ANALYSIS TO PROVIDE BETTER GUEST EXPERIENCE .

- WILL BE USING SQL TO QUERY AND ANALYZE THE DATA FOR BETTER INFORMED DECISIONS AND ANSWER SPECIFIC QUESTIONS

Dataset Description

- Booking_ID: Unique identifier for each hotel reservation.
- no_of_adults: Number of adults in the reservation.
- no_of_children: Number of children in the reservation.
- no_of_weekend_nights: Number of weekend nights in the reservation.
- no_of_week_nights: Number of weekday nights in the reservation.
- type_of_meal_plan: Meal plan chosen by the guests.
- room_type_reserved: Type of room reserved by the guests.
- lead_time: Days between booking and arrival.
- arrival_date: Date of arrival.
- market_segment_type: Market segment of the reservation.
- avg_price_per_room: Average price per room.
- booking_status: Status of the booking (e.g., Confirmed, Canceled).

Dataset Overview

Booking_ID	no_of_adults	no_of_children	no_of_weekend_nights	no_of_week_nights	type_of_meal_plan	room_type_reserved	lead_time	arrival_date	market_segment_type	avg_price_per_room	booking_status
INN00001	2	0	1	2	Meal Plan 1	Room_Type 1	224	02-10-2017	Offline	65	Not_Canceled
INN00002	2	0	2	3	Not Selected	Room_Type 1	5	06-11-2018	Online	106.68	Not_Canceled
INN00003	1	0	2	1	Meal Plan 1	Room_Type 1	1	28-02-2018	Online	60	Canceled
INN00004	2	0	0	2	Meal Plan 1	Room_Type 1	211	20-05-2018	Online	100	Canceled
INN00005	2	0	1	1	Not Selected	Room_Type 1	48	11-04-2018	Online	94.5	Canceled
INN00006	2	0	0	2	Meal Plan 2	Room_Type 1	346	13-09-2018	Online	115	Canceled
INN00007	2	0	1	3	Meal Plan 1	Room_Type 1	34	15-10-2017	Online	107.55	Not_Canceled
INN00008	2	0	1	3	Meal Plan 1	Room_Type 4	83	26-12-2018	Online	105.61	Not_Canceled

Query 1

>

WHAT IS THE TOTAL NUMBER OF RESERVATIONS IN THE DATASET?

```sql
SELECT COUNT(*) AS total_reservations
FROM hotel_reservations;
```

total_reservations
701

Query 2

WHICH MEAL PLAN IS THE MOST POPULAR AMONG GUESTS?

```sql
SELECT type_of_meal_plan, COUNT(*) AS COUNT
FROM hotel_reservations
GROUP BY type_of_meal_plan
ORDER BY COUNT DESC
LIMIT 1;
```

type_of_meal_plan	count
Meal Plan 1	527

Query 3

WHAT IS THE AVERAGE PRICE PER ROOM FOR RESERVATIONS INVOLVING CHILDREN?

```sql
SELECT AVG(avg_price_per_room) AS avg_price_with_children
FROM hotel_reservations
WHERE no_of_children >= 1;
```

avg_price_with_children
141.61795918367346

Query 4

>

HOW MANY RESERVATIONS WERE MADE FOR THE YEAR 20XX (REPLACE XX WITH THE DESIRED YEAR)?

```sql
SELECT COUNT(*) AS reservations_in_20XX
FROM hotel_reservations
WHERE arrival_date LIKE '%2017%';
```

reservations_in_20XX
123

Query 5

WHAT IS THE MOST COMMONLY BOOKED ROOM TYPE?

```sql
SELECT room_type_reserved, COUNT(*) AS COUNT
FROM hotel_reservations
GROUP BY room_type_reserved
ORDER BY COUNT DESC
LIMIT 1;
```

room_type_reserved	count
Room_Type 1	534

Query 6

>

HOW MANY RESERVATIONS FALL ON A WEEKEND (NO_OF_WEEKEND_NIGHTS > 0)?

```
SELECT COUNT(*) AS reservations_with_weekend_nights
FROM hotel_reservations
WHERE no_of_weekend_nights > 0;
```

reservations_with_weekend_nights
384

Query 7

>

WHAT IS THE HIGHEST AND LOWEST LEAD TIME FOR RESERVATIONS?

```sql
SELECT MAX(lead_time) AS highest_lead_time, MIN(lead_time) AS lowest_lead_time
FROM hotel_reservations;
```

Query 8

>

WHAT IS THE MOST COMMON MARKET SEGMENT TYPE FOR RESERVATIONS?

```sql
SELECT market_segment_type, COUNT(*) AS COUNT
FROM hotel_reservations
GROUP BY market_segment_type
ORDER BY COUNT DESC
LIMIT 1;
```

market_segment_type	count
Online	518

Query 9

>

HOW MANY RESERVATIONS HAVE A BOOKING STATUS OF "CONFIRMED"?

```sql
SELECT COUNT(booking_status) AS confirmed_reservations
FROM hotel_reservations
WHERE booking_status = 'Not_Canceled';
```

confirmed_reservations
493

Query 10

WHAT IS THE TOTAL NUMBER OF ADULTS AND CHILDREN ACROSS ALL RESERVATIONS?

```sql
SELECT SUM(no_of_adults) AS total_adults, SUM(no_of_children) AS total_children
FROM hotel_reservations;
```

total_adults	total_children
1316	69

Query 11

WHAT IS THE AVERAGE NUMBER OF WEEKEND NIGHTS FOR RESERVATIONS INVOLVING CHILDREN?

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

avg_weekend_nights_with_children
0.9795918367346939

Query 12

HOW MANY RESERVATIONS WERE MADE IN EACH MONTH OF THE YEAR?

```sql
SELECT
    CAST(SUBSTRING(arrival_date, 4, 2) AS INT) AS month,
    COUNT(*) AS reservations_count
FROM hotel_reservations
GROUP BY SUBSTRING(arrival_date, 4, 2)
ORDER BY month;
```

month	reservations_count
1	11
2	28
3	52
4	67

Query 13

WHAT IS THE AVERAGE NUMBER OF NIGHTS (BOTH WEEKEND AND WEEKDAY) SPENT BY GUESTS FOR EACH ROOM TYPE?

```sql
SELECT room_type_reserved,
       AVG(no_of_weekend_nights + no_of_week_nights) AS avg_total_nights
FROM hotel_reservations
GROUP BY room_type_reserved;
```

room_type_reserved	avg_total_nights
Room_Type 1	2.8782771535580522
Room_Type 2	3
Room_Type 4	3.8
Room_Type 5	2.5

Query 14

>

FOR RESERVATIONS INVOLVING CHILDREN, WHAT IS THE MOST COMMON ROOM TYPE, AND WHAT IS THE AVERAGE PRICE FOR THAT ROOM TYPE?

```sql
SELECT room_type_reserved,
       COUNT(*) AS COUNT,
       AVG(avg_price_per_room) AS avg_price
FROM hotel_reservations
WHERE no_of_children > 0
GROUP BY room_type_reserved
ORDER BY COUNT DESC
LIMIT 1;
```

room_type_reserved	count	avg_price
Room_Type 1	24	123.12291666666665

Query 15

>

FIND THE MARKET SEGMENT TYPE THAT GENERATES THE HIGHEST AVERAGE PRICE PER ROOM.

```sql
SELECT market_segment_type,
       AVG(avg_price_per_room) AS avg_price_per_room
FROM hotel_reservations
GROUP BY market_segment_type
ORDER BY avg_price_per_room DESC
LIMIT 1;
```

market_segment_type	avg_price_per_room
Online	112.45521235521237

Thank You

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