AIRLINES PERFORMANCE & CUSTOMER INSIGHTS

Presented by
Jit Mukherjee

INTRODUCTION

This project analyzes customer satisfaction service quality in the aviation industry using SQL.

WHAT PERCENTAGE OF PASSENGERS ARE SATISFIED VS. DISSATISFIED?

```sql
Select Satisfaction,COUNT(*) as total_passengers,
Round((Count(*) * 100.0/(Select COUNT(*) from flight)),2) As percentage
from flight
Group by satisfaction;
```

	Satisfaction	total_passengers	percentage
1	dissatisfied	58879	56.67000000
2	satisfied	45025	43.33000000

WHICH FEATURES (WIFI, SEAT COMFORT, FOOD, ETC.) HAVE THE STRONGEST CORRELATION WITH SATISFACTION?

```sql
Select AVG(Inflight_wifi_service)as wifi_service,
AVG(Seat_comfort) as seat_comfort,
AVG(Food_and_drink) as food_and_drink,
AVG(Leg_room_service) AS avg_legroom_rating,
AVG(Inflight_entertainment) AS avg_entertainment_rating
from
Flight
Where satisfaction = 'dissatified'
```

wifi_service	seat_comfort	food_and_drink	avg_legroom_rating	avg_entertainment_rating
NULL	NULL	NULL	NULL	NULL

COMPARE SATISFACTION BETWEEN BUSINESS VS. LEISURE TRAVELLERS

```sql
Select Type_of_travel, Satisfaction, COUNT(*) AS TOTAL_PASSENGERS
from flight group by Type_of_Travel,satisfaction
order by Type_of_Travel
```

	Type_of_travel	Satisfaction	TOTAL_PASSENGERS
1	Business travel	satisfied	41746
2	Business travel	dissatisfied	29909
3	Personal Travel	satisfied	3279
4	Personal Travel	dissatisfied	28970

CHECK SATISFACTION LEVELS BY FLIGHT CLASS (ECONOMY, BUSINESS, ETC.)

```sql
Select Class, Satisfaction, COUNT(*) AS TOTAL_PASSENGERS
from flight group by Class,satisfaction
order by Class
```

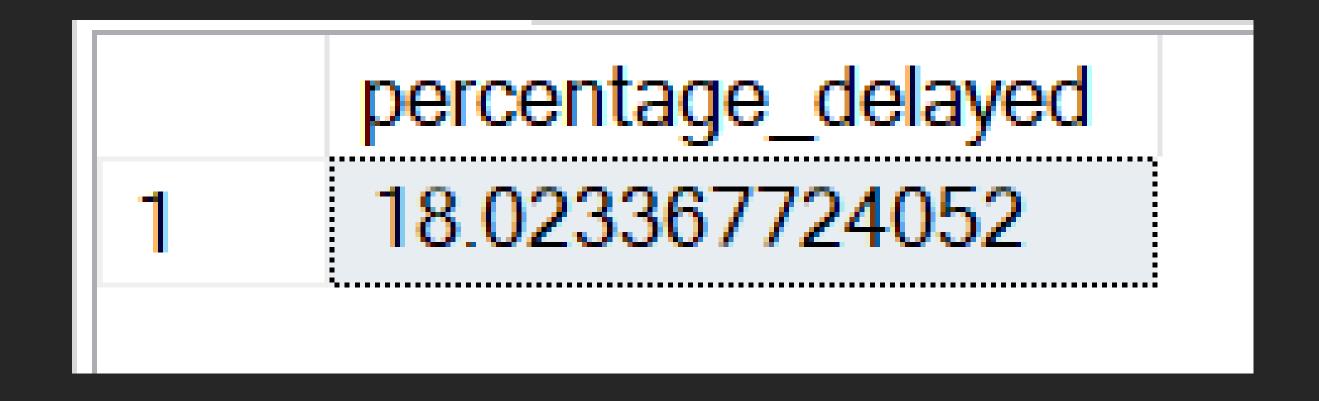|	Class	Satisfaction	TOTAL_PASSENGERS
1	Business	dissatisfied	15185
2	Business	satisfied	34480
3	Eco	satisfied	8701
4	Eco	dissatisfied	38044
5	Eco Plus	dissatisfied	5650
6	Eco Plus	satisfied	1844

FIND THE AVERAGE DEPARTURE & ARRIVAL DELAY FOR SATISFIED VS. DISSATISFIED CUSTOMERS

```sql
Select (COUNT(*)*100.0/(Select COUNT(*)from Flight)) as percentage_delayed
from Flight
where Departure_Delay_in_Minutes>15 and Arrival_Delay_in_Minutes>15
```

	satisfaction	Average_Arrival_delay_in_minutes	Departure_Delay_in_Minutes
1	dissatisfied	17	16
2	satisfied	12	12

CHECK THE PERCENTAGE OF FLIGHTS DELAYED (BOTH DEPARTURE & ARRIVAL)

```sql
Select (COUNT(*)*100.0/(Select COUNT(*)from Flight)) as percentage_delayed
from Flight
where Departure_Delay_in_Minutes>15 and Arrival_Delay_in_Minutes>15
```

	percentage_delayed
1	18.023367724052

FIND THE MOST DELAYED FLIGHT ROUTES (TOP 5)

```sql
Select Top 5 Flight_Distance,
ROUND(Avg(Arrival_Delay_in_Minutes),2) as average_delay,
ROUND(Avg(Departure_Delay_in_Minutes),2)as departure_delay,
Count(*)AS total_flights
from Flight
Group by Flight_Distance
order by departure_delay;
```

	Flight_Distance	average_delay	departure_delay	total_flights
1	568	4	0	2
2	1094	0	0	1
3	1479	0	0	1
4	2791	1	0	6
5	3629	5	0	9

FIND THE TOP COMPLAINTS AMONG DISSATISFIED CUSTOMERS

```sql
Select AVG(Inflight_wifi_service)as inflight_wifi_service,
AVG(Departure_Arrival_time_convenient)as departure_arrival_time,
AVG(Ease_of_Online_booking)as ease_of_oneline_booking,
AVG(Food_and_drink)as food_and_drink
from Flight
Where satisfaction = 'dissatisfied'
```

	inflight_wifi_service	departure_arrival_time	ease_of_oneline_booking	food_and_drink
1	2	3	2	2

COMPARE BAGGAGE HANDLING RATINGS BETWEEN SATISFIED VS. DISSATISFIED PASSENGERS

```sql
Select ROUND(AVG(Baggage_handling),2) as baggage_handling,
satisfaction
from Flight
Group by satisfaction
```

	baggage_handling	satisfaction
1	3	dissatisfied
2	3	satisfied

CHECK IF ONLINE BOOKING CONVENIENCE IMPACTS SATISFACTION

```sql
Select satisfaction,Ease_of_online_booking,count(*) as total_passengers
from Flight
group by satisfaction,Ease_of_Online_booking
order by satisfaction
```

	satisfaction	Ease_of_online_booking	total_passengers
1	dissatisfied	3	16912
2	dissatisfied	0	1507
3	dissatisfied	1	10935
4	dissatisfied	4	9180
5	dissatisfied	5	3625
6	dissatisfied	2	16720
7	satisfied	3	7537
8	satisfied	2	7301
9	satisfied	5	10226
10	satisfied	4	10391
11	satisfied	1	6590

FIND AGE-WISE SATISFACTION TRENDS (GROUPING AGES)

```sql
Select CASE
When Age between 18 and 30 then '18-30'
When Age between 31 and 50 then '31-50'
Else '50+'
End as age_group,satisfaction,COUNT(*) As total_passengers
from Flight
group by age,satisfaction
order by age_group
```

	age_group	satisfaction	total_passengers
1	18-30	satisfied	890
2	18-30	dissatisfied	682
3	18-30	satisfied	728
4	18-30	dissatisfied	1388
5	18-30	dissatisfied	1561
6	18-30	satisfied	222
7	18-30	satisfied	727
8	18-30	dissatisfied	1061
9	18-30	satisfied	732
10	18-30	dissatisfied	1047
11	18-30	satisfied	926

CHECK IF MALE OR FEMALE PASSENGERS ARE MORE SATISFIED

```sql
Select Gender, satisfaction,COUNT(*) as total_passengers
from Flight
Group by Gender,satisfaction
```

	Gender	satisfaction	total_passengers
1	Male	satisfied	22491
2	Female	dissatisfied	30193
3	Female	satisfied	22534
4	Male	dissatisfied	28686

FIND MOST FREQUENT FLYERS (TOP 10 MOST TRAVELED CUSTOMERS)

```sql
Select top 10 id,count(*) as total_passengers,
    AVG(CASE
            WHEN satisfaction = 'satisfied' THEN 2
            WHEN satisfaction = 'dissatisfied' THEN 0
        END) AS avg_satisfaction
from Flight
group by id
order by
total_passengers DESC;
```

	id	total_passengers	avg_satisfaction
1	105012	1	2
2	71052	1	0
3	106409	1	0
4	72449	1	0
5	49635	1	0
6	15675	1	0
7	92300	1	2
8	51201	1	2
9	56774	1	0
10	113548	1	0