Measure Definitions

Project: Flight Passenger Satisfaction – Business Intelligence
Course: IT300 – Business Intelligence
Students: Mohamed Ben Arbia + Haitham Maatar

Measure Name	Business Description	Detailed DAX Function
1) Overall Satisfaction Rate (%)	Calculates the percentage of total passengers who reported being "Satisfied" with their flight experience.	Overall Satisfaction Rate (%) = DIVIDE(CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Service[Satisfaction] = "Satisfied"), COUNTROWS(Fact_Satisfaction))
2) Number of Passengers	Provides the unique count of passengers analyzed in the dataset using the Passenger ID.	Number of Passengers = DISTINCTCOUNT(Dim_Passenger[Passenger ID])
3) Satisfaction Rate by Class (%)	Measure used to visualize and compare the satisfaction percentage across different cabin classes (Business, Eco, etc.).	Satisfaction Rate by Class (%) = DIVIDE(CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Service[Satisfaction] = "Satisfied"), COUNTROWS(Fact_Satisfaction))
4) Satisfaction Rate by Customer Type (%)	Used to calculate the percentage of satisfaction specifically when sliced by Loyal vs. Disloyal customer segments.	Satisfaction Rate by Customer Type (%) = DIVIDE(CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Service[Satisfaction] = "Satisfied"), COUNTROWS(Fact_Satisfaction))
5) Average Service Rating Score	A comprehensive index that averages 17 different service	Average Service Score = AVERAGEX(Dim_Service, (Dim_Service[Seat Comfort] + Dim_Service[Food and Drink] + Dim_Service[Inflight Wifi Service] + Dim_Service[Cleanliness] + Dim_Service[Inflight

Measure Name	Business Description	Detailed DAX Function
	and operational metrics to provide a single quality score.	Service] + Dim_Service[Online Boarding] + Dim_Service[Departure/Arrival time convenient] + Dim_Service[Ease of Online booking] + Dim_Service[Gate location] + Dim_Service[Inflight entertainment] + Dim_Service[On-board service] + Dim_Service[Leg room service] + Dim_Service[Baggage handling] + Dim_Service[Checkin service] + Dim_Service[Departure Delay in Minutes] + Dim_Service[Arrival Delay in Minutes] + Dim_Service[Satisfaction]) / 17)
6) Delay Impact Index	A ratio comparing the average delay of unsatisfied passengers to satisfied ones. A higher ratio indicates delays strongly drive dissatisfaction.	Average Total Delay (Minutes) = AVERAGEX(Fact_Satisfaction, Fact_Satisfaction[Departure Delay in Minutes] + Fact_Satisfaction[Arrival Delay in Minutes]) Avg Delay - Satisfied = CALCULATE([Average Total Delay (Minutes)], Dim_Service[Satisfaction] = "Satisfied") Avg Delay - Unsatisfied = CALCULATE([Average Total Delay (Minutes)], Dim_Service[Satisfaction] = "Neutral or Dissatisfied") Delay Impact Index = DIVIDE([Avg Delay - Unsatisfied], [Avg Delay - Satisfied])
7) Business Traveler Satisfaction Rate (%)	Specifically calculates the satisfaction percentage for the "Business travel" category within the Type of Travel dimension.	Business Traveler Satisfaction Rate (%) = DIVIDE(CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Service[Satisfaction] = "Satisfied", Dim_Flight[Type of Travel] = "Business travel"), CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Flight[Type of Travel] = "Business travel"))

Measure Name	Business Description	Detailed DAX Function
8) Loyal Customer Satisfaction Rate (%)	Specifically calculates the satisfaction percentage for the "Loyal Customer" category within the Customer Type dimension.	Loyal Customer Satisfaction Rate (%) = DIVIDE(CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Service[Satisfaction] = "Satisfied", Dim_Passenger[Customer Type] = "Loyal Customer"), CALCULATE(COUNTROWS(Fact_Satisfaction), Dim_Passenger[Customer Type] = "Loyal Customer"))
9) Average Flight Distance	Calculates the mean distance of all flights to analyze how journey length impacts passenger sentiment.	Average Flight Distance = AVERAGE(Dim_Flight[Flight Distance])