

FLIGHT PASSENGER

satisfaction

Business Intelligence Project

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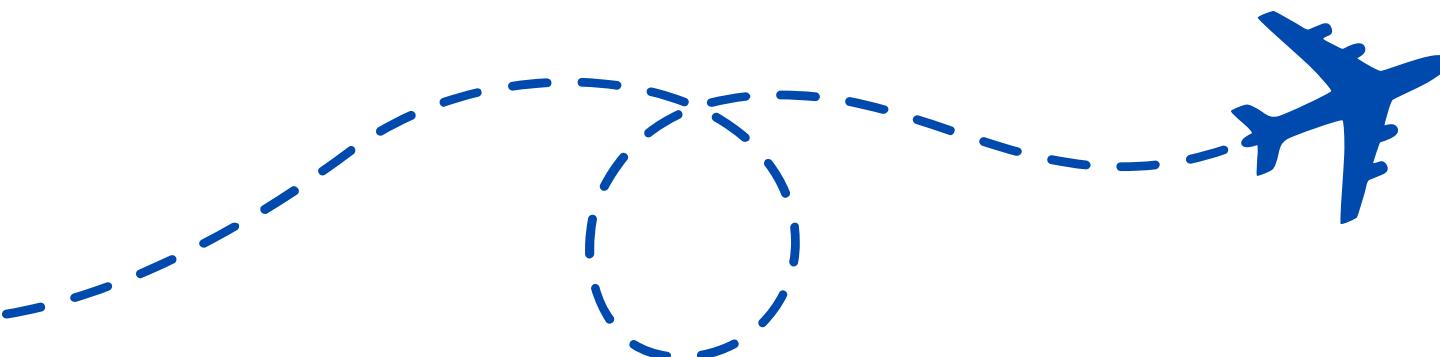
PROJECT OVERVIEW

- **Industry:** Aviation / Air Transportation
- **Objective:** Understand drivers of passenger satisfaction
- Leverage BI tools to support data-driven decisions
- **Dataset:** Airline Passenger Satisfaction (25,976 passengers)



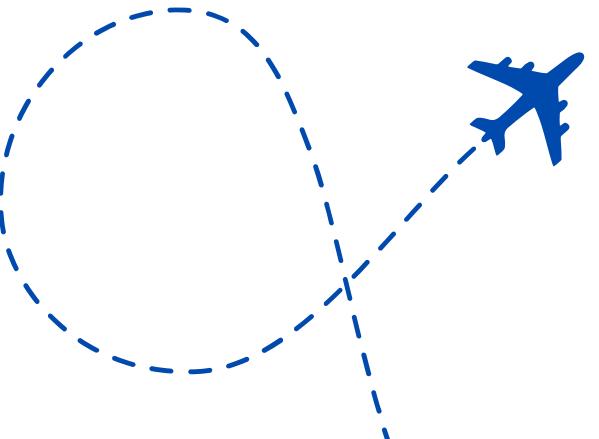
BUSINESS PROBLEM & OBJECTIVES

- Difficulty identifying key satisfaction drivers
- Limited visibility across customer segments
- Decisions based on intuition rather than data
- Goal: Centralized BI solution with KPIs & dashboards



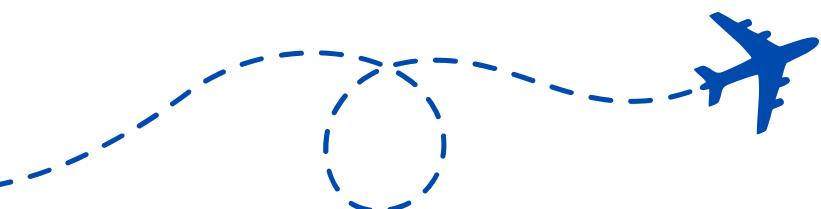
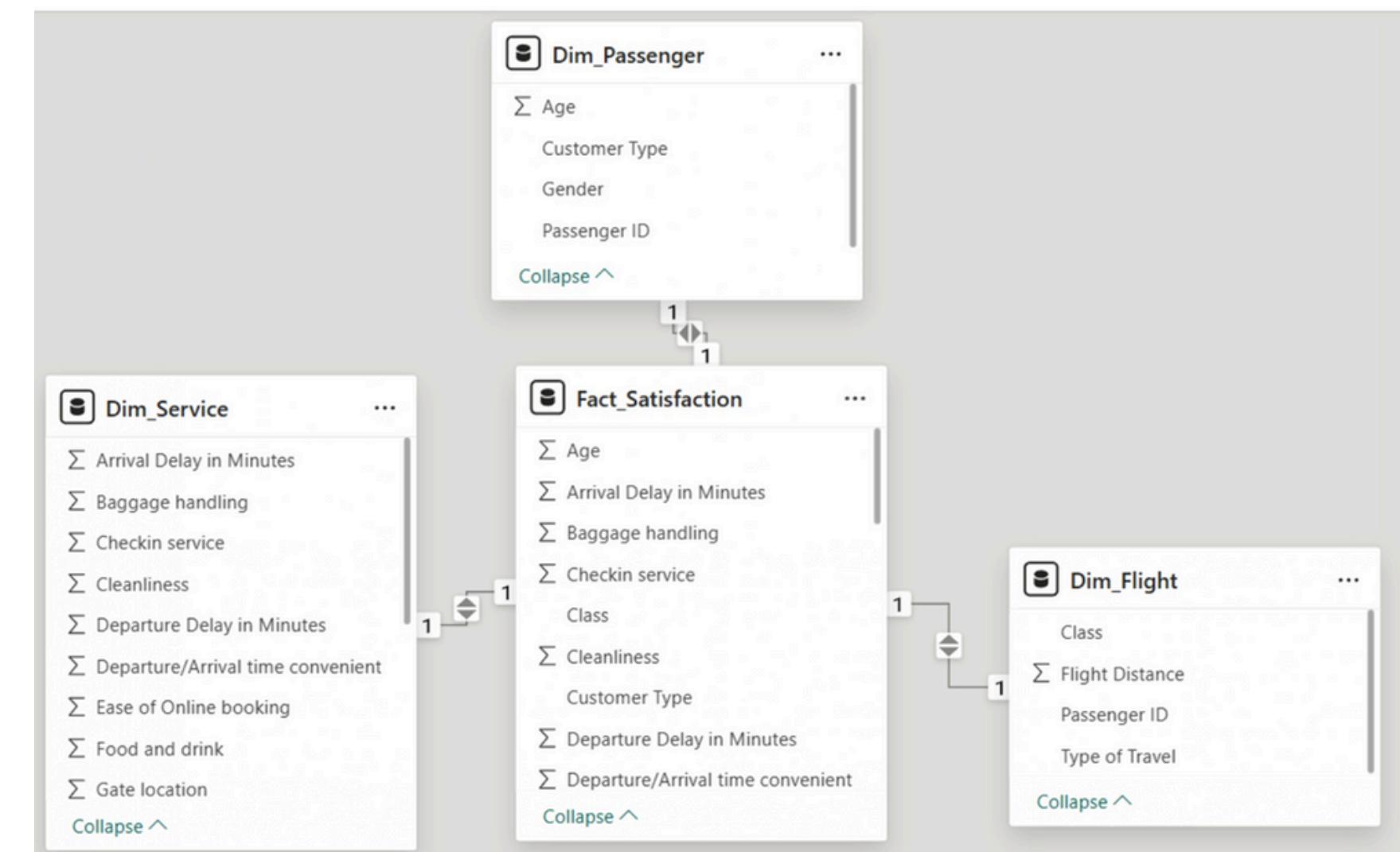
DATASET & DATA SOURCES

- **Source:** Public Kaggle dataset
- **Format:** CSV survey and operational flight data
- **Key attributes:** demographics, travel details, service ratings
- **Target variable:** Overall passenger satisfaction



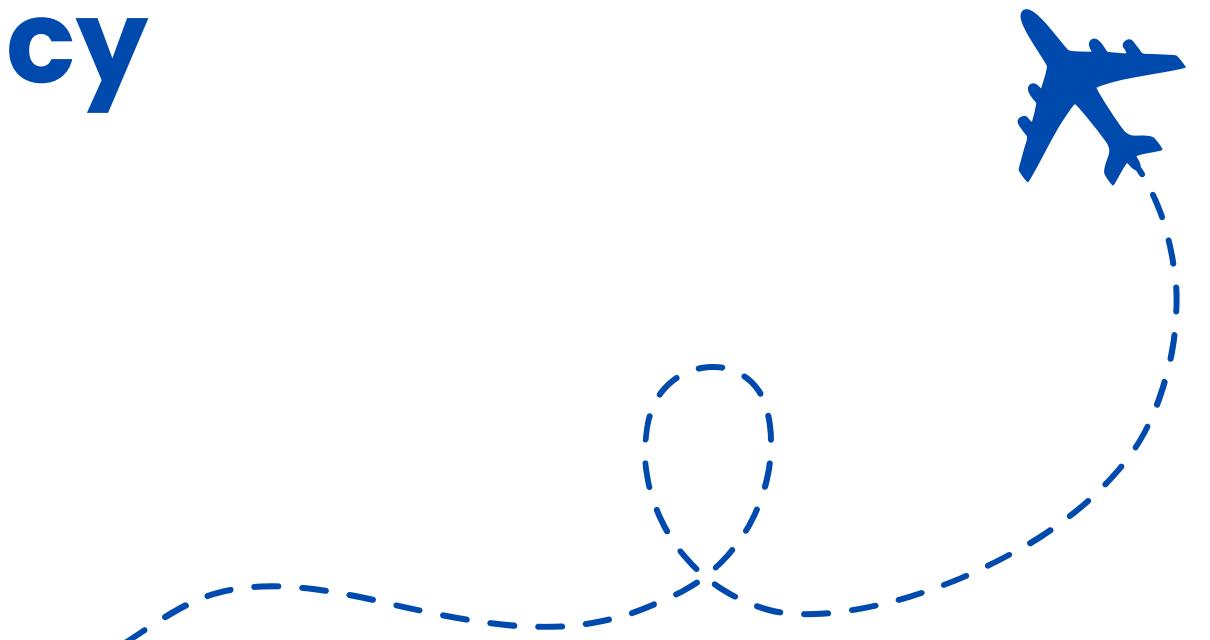
DATA MODEL (STAR SCHEMA)

- **Fact table:** Fact_Satisfaction
- **Dimensions:** Passenger, Flight, Service
- **Optimized** for analytical queries and dashboarding
- Implemented in **Power BI**



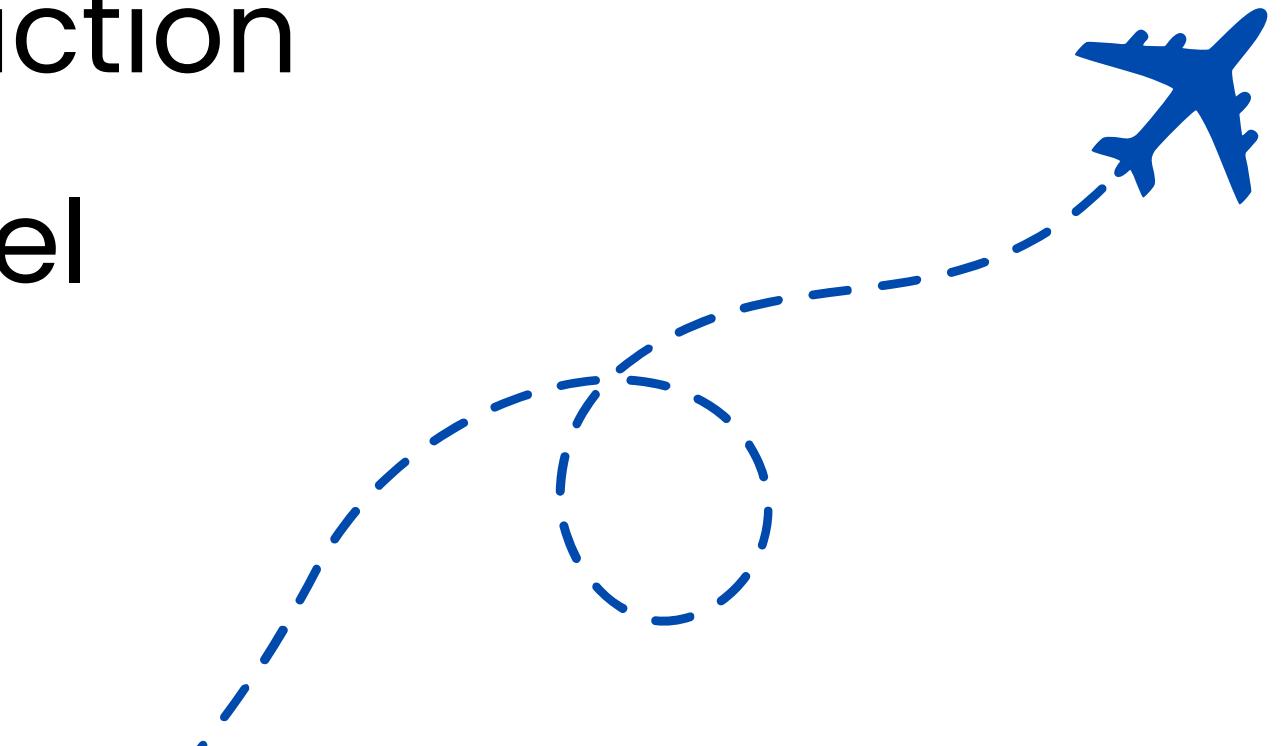
ETL PROCESS

- **Extract:** Load raw CSV data
- **Transform:** Clean data, handle missing values, create calculated fields
- **Load:** Build star schema and relationships in Power BI
- Ensure data **quality** and **consistency**



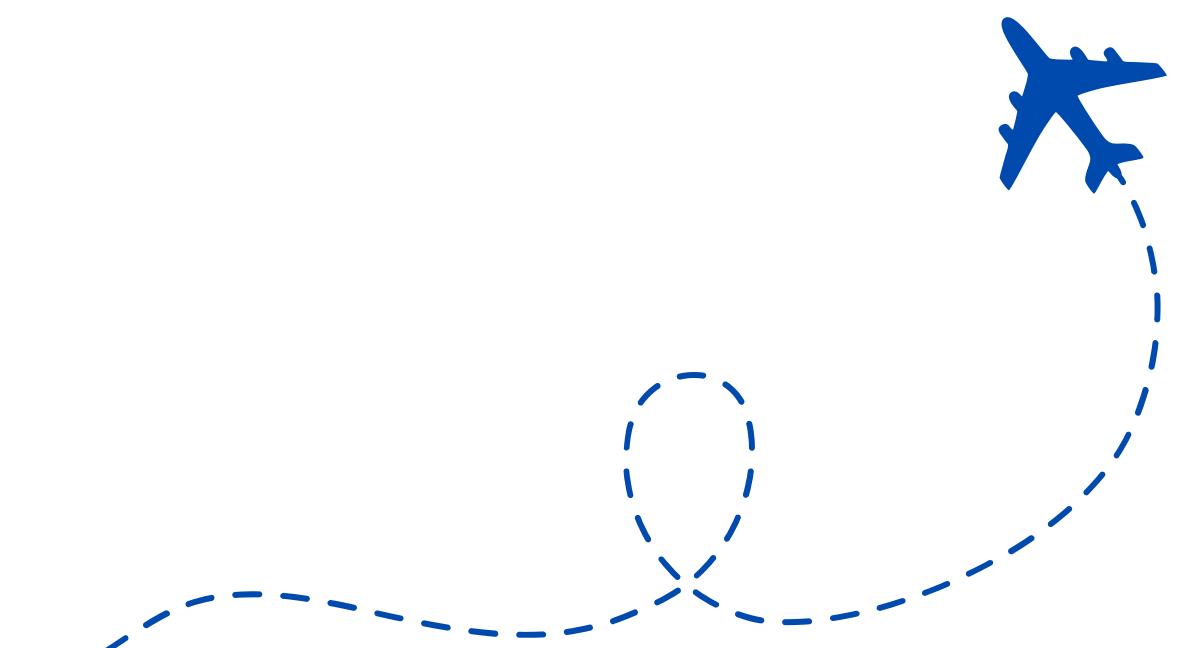
KEY PERFORMANCE INDICATORS

- Overall Satisfaction Rate: **43.9%**
- Satisfaction by Class (Business **vs** Economy)
- Satisfaction by Travel Type (Business **vs** Personal)
- Loyal **vs** Disloyal Customer Satisfaction
- Average Delay by Satisfaction Level



DASHBOARD OVERVIEW

- **Executive summary** dashboard
- **Interactive filters:** class, customer type, travel type
- **Visuals:** bar charts, donut charts, trend analysis
- Designed for **management decision-making**



Loyal Customer Satisfaction Rate (%) by Class

0.27

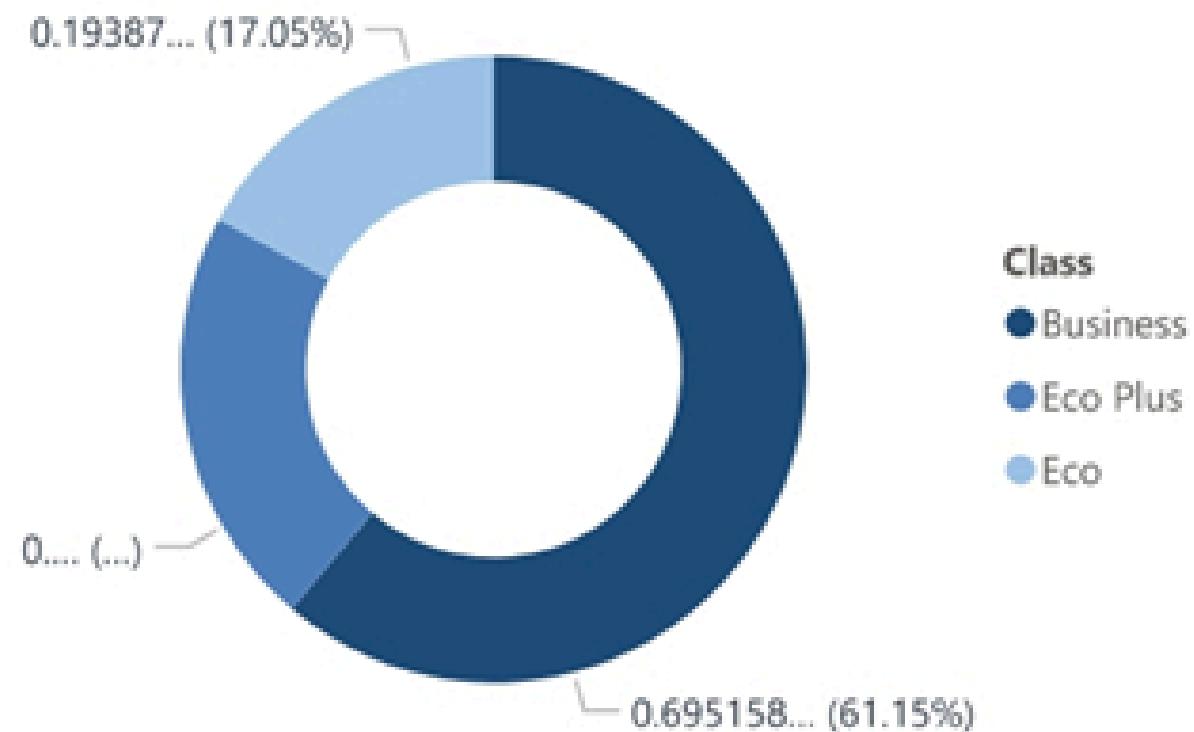
Overall Satisfaction Rate (%) by Class

0.25

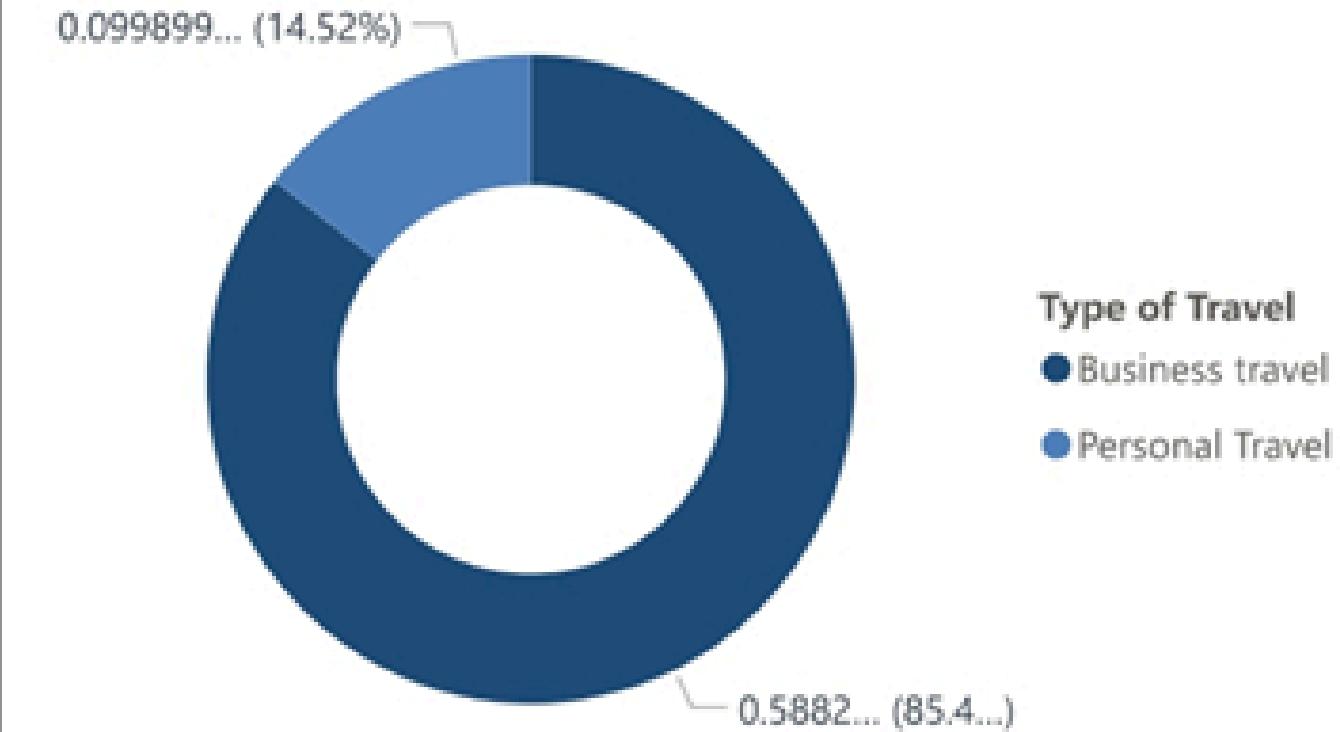
Business Traveler Satisfaction Rate (%) by Class

0.39

Satisfaction Rate by Class (%) by Class



Satisfaction Rate by Customer Type (%) by Type of Travel



26K
Number of Passengers

satisfaction

- neutral or dissatisfied
- satisfied

Type of Travel

- Business travel
- Personal Travel

Customer Type

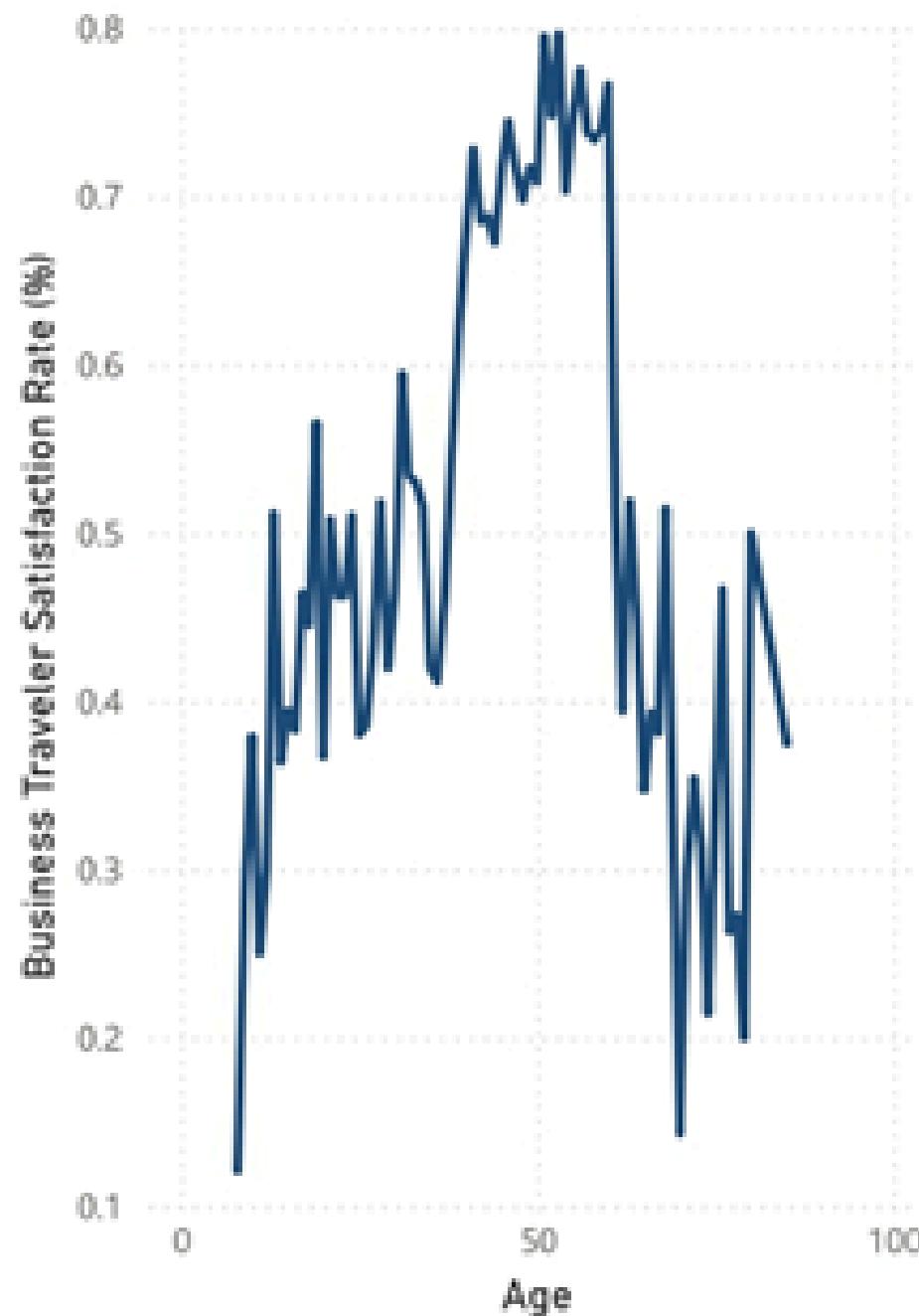
- disloyal Customer
- Loyal Customer

Class

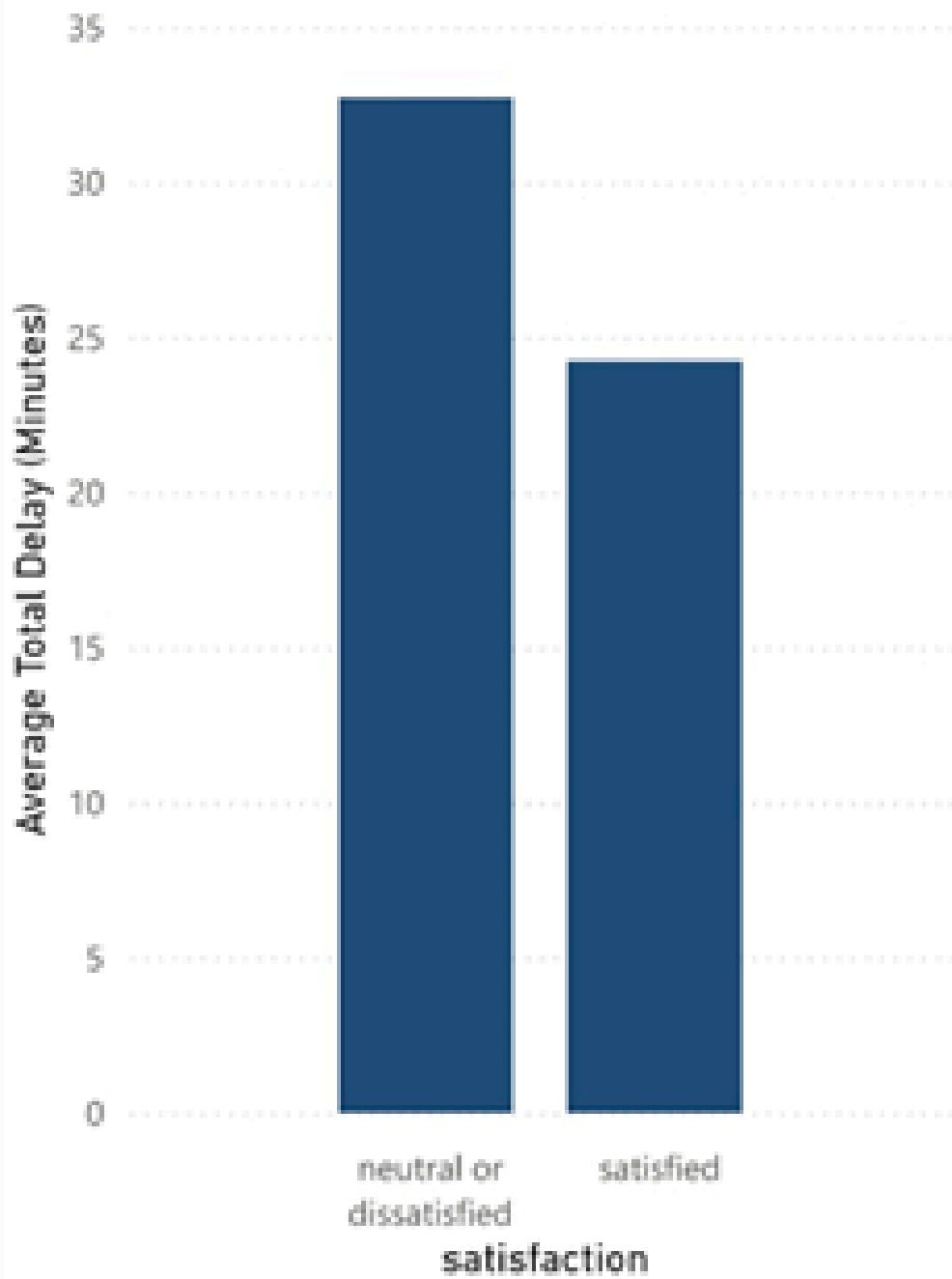
- Business
- Eco
- Eco Plus

Class	Count of satisfaction	Sum of Cleanliness	Sum of Seat comfort	Sum of Food and drink	Sum of On-board service	Sum of Inflight entertainment	Sum of Inflight service	Sum of Ease of Online bo
Business	12495	43726	47169	41945	46165	45668	48143	3
Eco	11564	35751	36471	35706	36046	35730	40207	2
Eco Plus	1917	5886	5957	5871	5735	5823	6443	
Total	25976	85363	89597	83522	87946	87221	94793	7

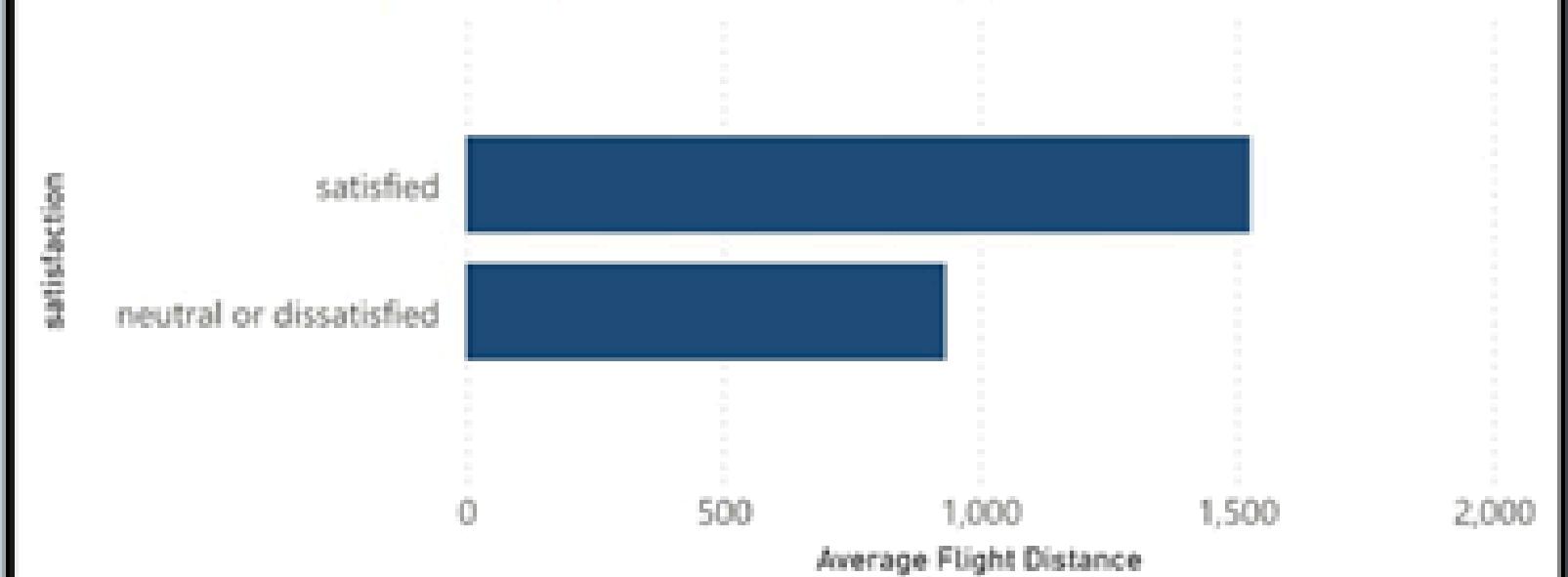
Business Traveler Satisfaction Rate (%) by Age



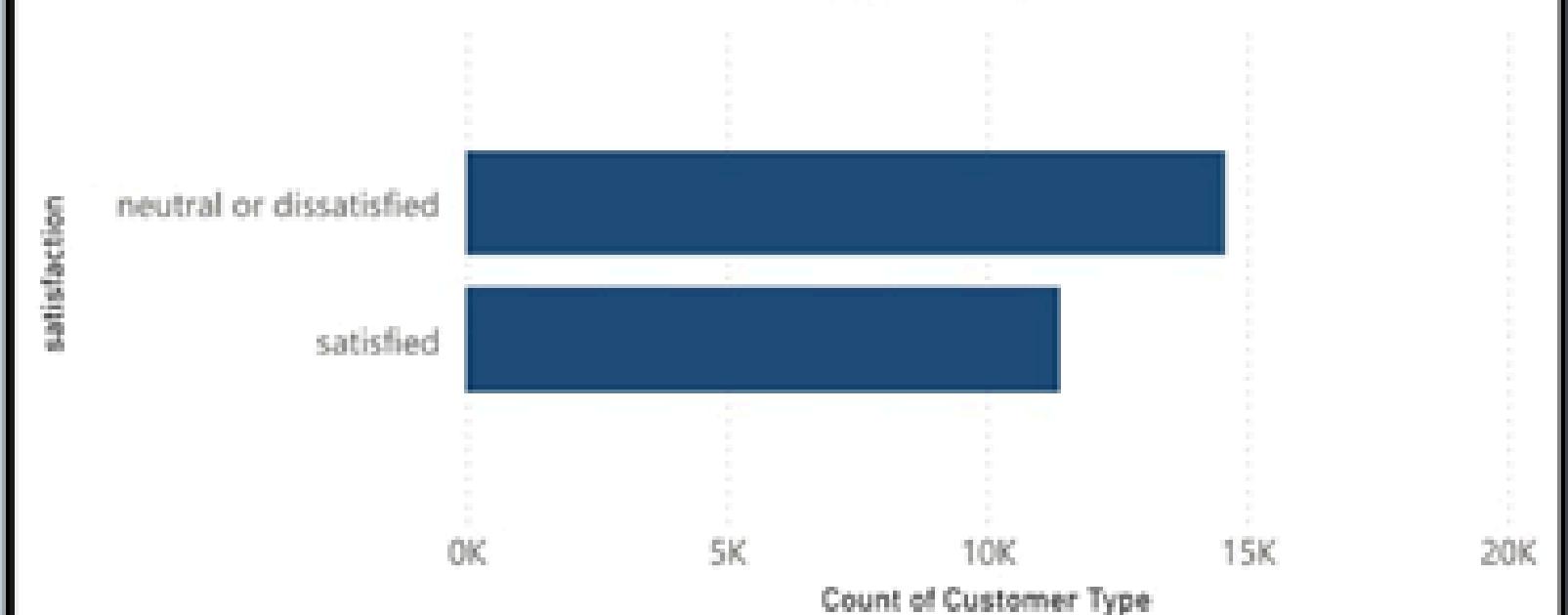
Average Total Delay (Minutes) by satisfaction



Average Flight Distance by satisfaction

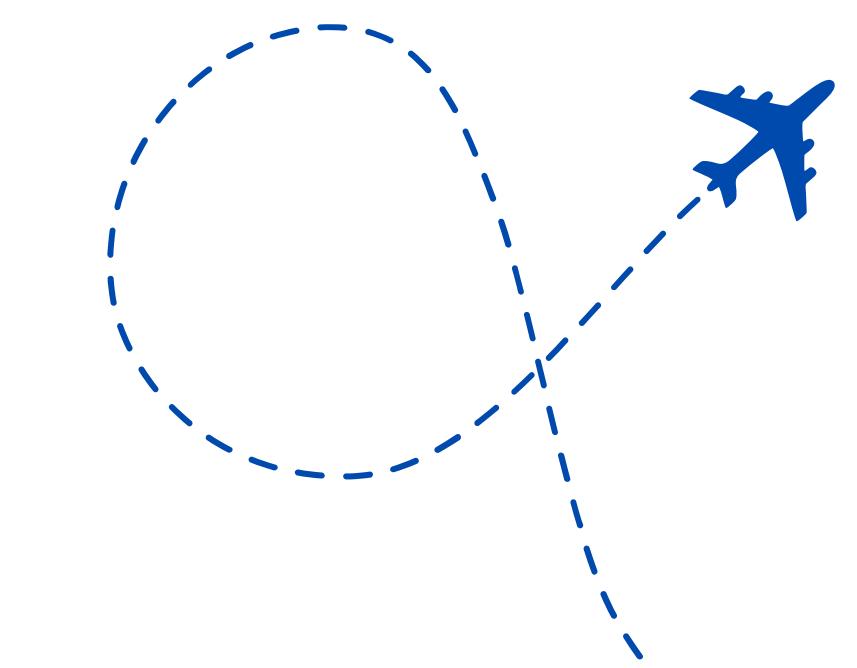


Count of Customer Type by satisfaction



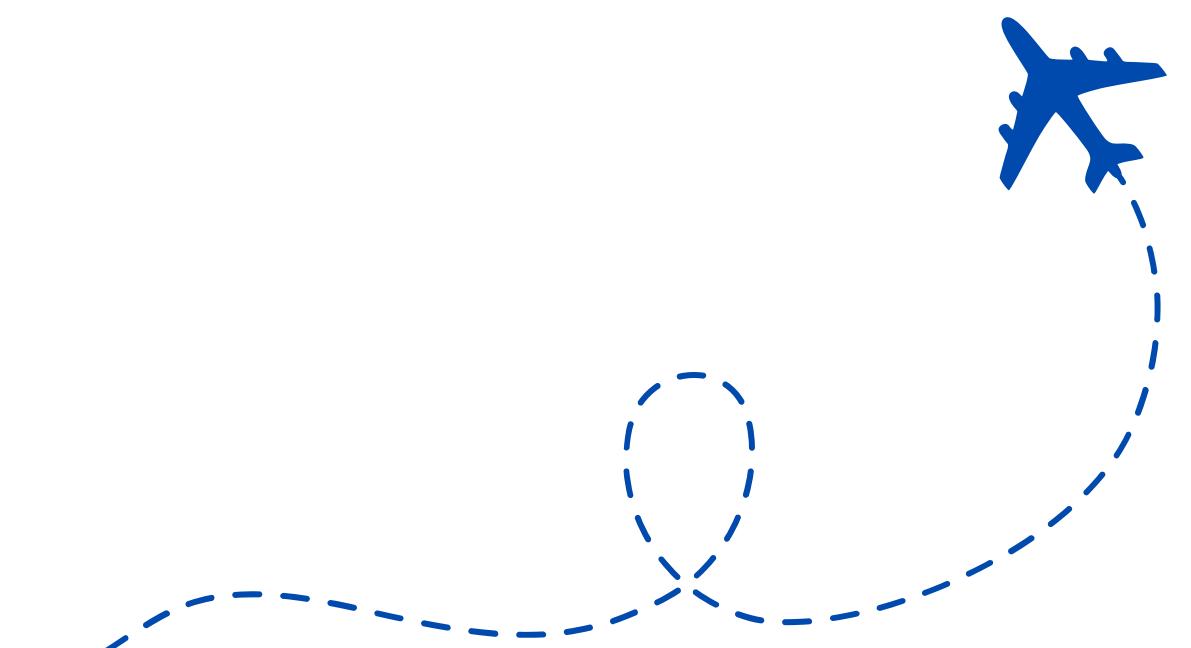
RECOMMENDATIONS

- **Improve** personal travel experience end-to-end
- **Enhance** digital and online boarding services
- **Raise** comfort baseline in economy class
- **Reduce** delays and **improve** disruption communication
- **Protect** and **retain** loyal business travelers



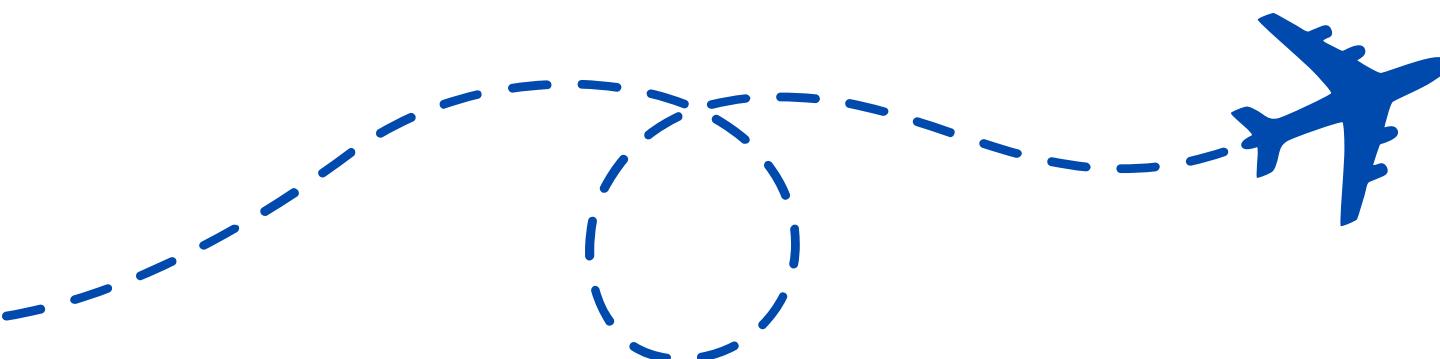
BUSINESS VALUE

- **Clear visibility** into satisfaction drivers
- Data-driven **prioritization** of improvements
- **Support** strategic and operational decisions
- **Foundation** for continuous performance monitoring



CONCLUSION

- **Complete BI solution** from data to insights
- **Actionable dashboards** for airline management
- **Scalable model** for future enhancements
- Demonstrates end-to-end **BI lifecycle**



THANK
YOU

