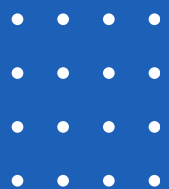


FINAL PROJECT DATA ANALYST

CUSTOMER SATISFACTION AND
SENTIMENT ANALYSIS

By Dimas Hardianto





INTRODUCTION

DIMAS HARDIANTO

Data Analyst Enthusiast

My Writing
Medium



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OVERVIEW PROJECT

This project analyzes the Airlines_review.csv dataset using customer satisfaction and sentiment analysis methods :

- to measure the level of customer satisfaction with airline services.
- The analysis aims to identify the service aspects that most significantly influence customer satisfaction.
- Additionally, it provides recommendations on whether the airline's services can be classified as 'good' or 'not good' based on patterns in customer review sentiments.

- ✓ **Data Analysis (EDA)**
- ✓ **Survey Analysis**
- ✓ **Present in dashboard/visualize in dashboard**





CUSTOMER SATISFACTION AND SENTIMENT ANALYSIS

Dataset : 

BACKGROUND



✓ Determination Of The Research Problem

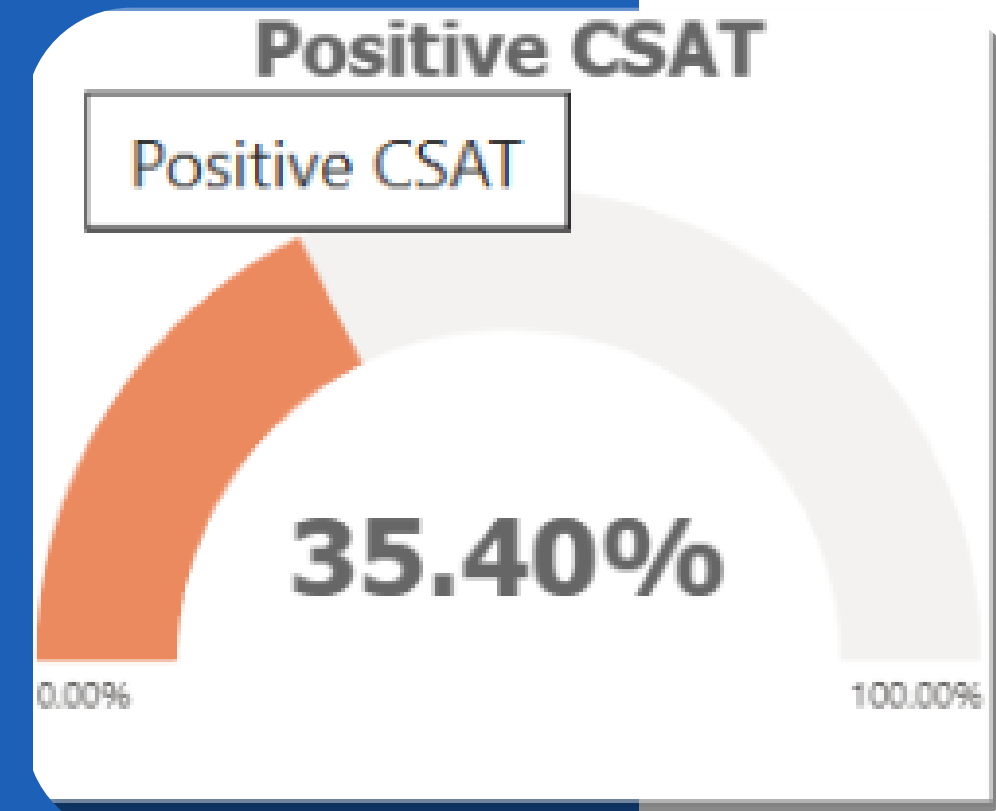
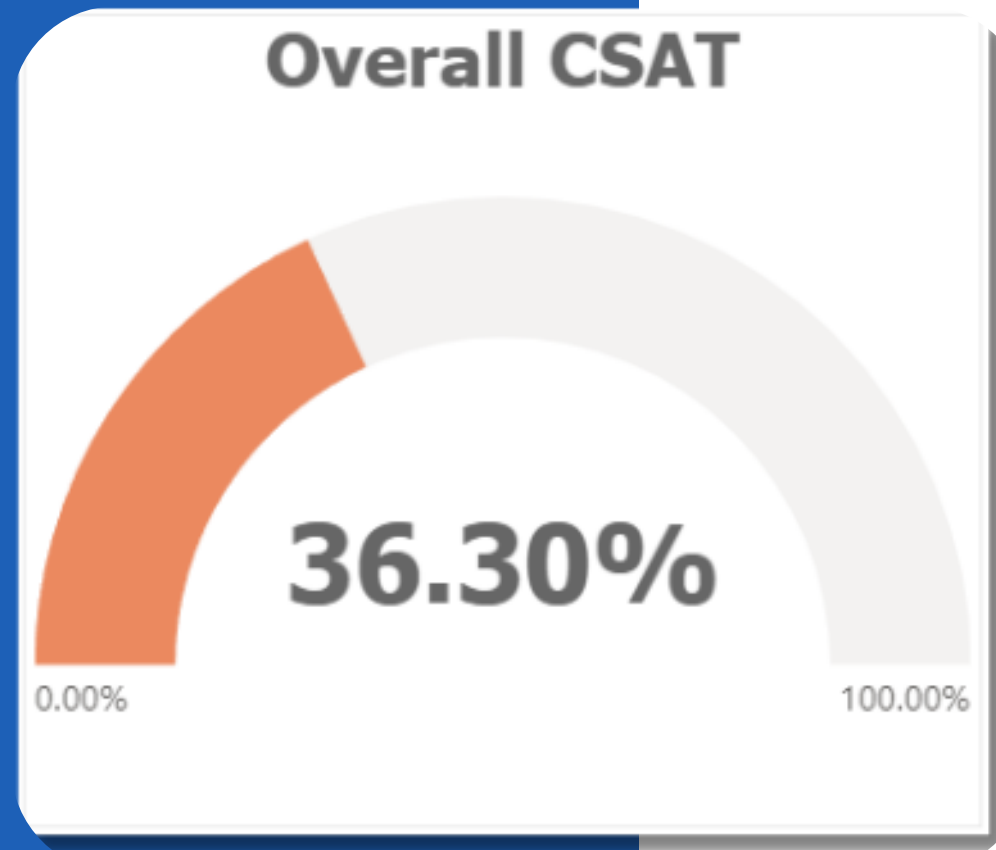
This research aims to analyze airline customer reviews from 2015 to 2023 to identify the factors influencing customer satisfaction levels and provide recommendations for service improvement.

✓ Data and sources

The Dataset used was obtained from Airlinequality.com, includes customer reviews from various countries about the airline's services, facilities, comfort, and travel experience. (Web Scraping Results)

✓ Research Methods

This study utilizes sentiment analysis to classify customer reviews into positive and negative categories, along with a customer satisfaction analysis to evaluate the key service aspects that most influence customer satisfaction.



PROBLEM STATEMENT

- > The Positive CSAT rate of 35.40% and the Overall CSAT of 36.30% indicate that the majority of airline customers are dissatisfied.
- > Aspects such as Wi-Fi & Connectivity, Inflight Entertainment, and Food & Beverages are the primary drivers of dissatisfaction, impacting customer loyalty and the airline's reputation. A comprehensive analysis through Customer Satisfaction and Sentiment Analysis is essential to identify the root causes and implement strategic improvements to enhance the customer experience.

THE DATA



- Data from Kaggle
- Contains airline data, ratings, customer reviews, travel types, services, and flight recommendations
- From 2015 - 2023

Airlines Name
248



23.171
Survey Data

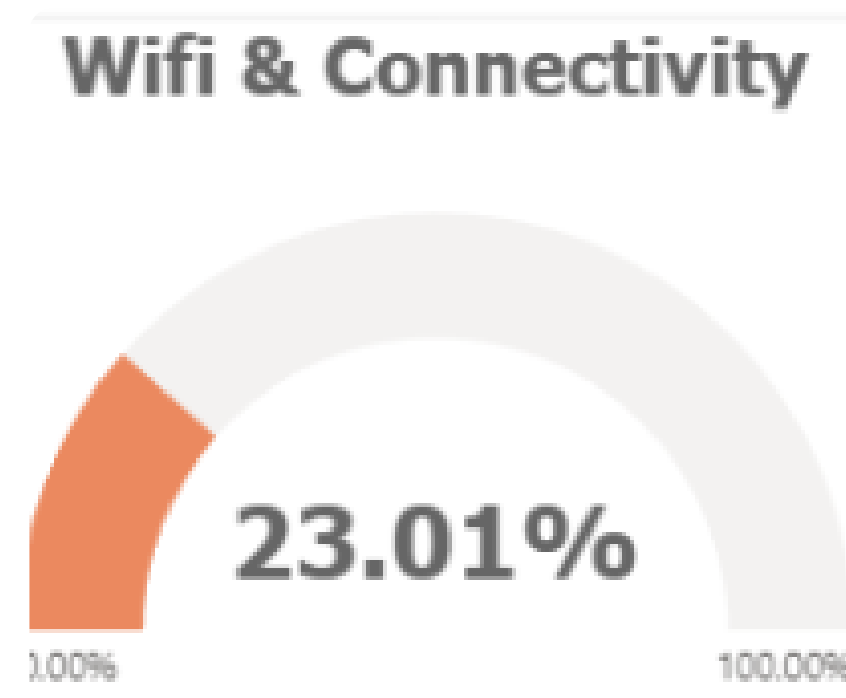
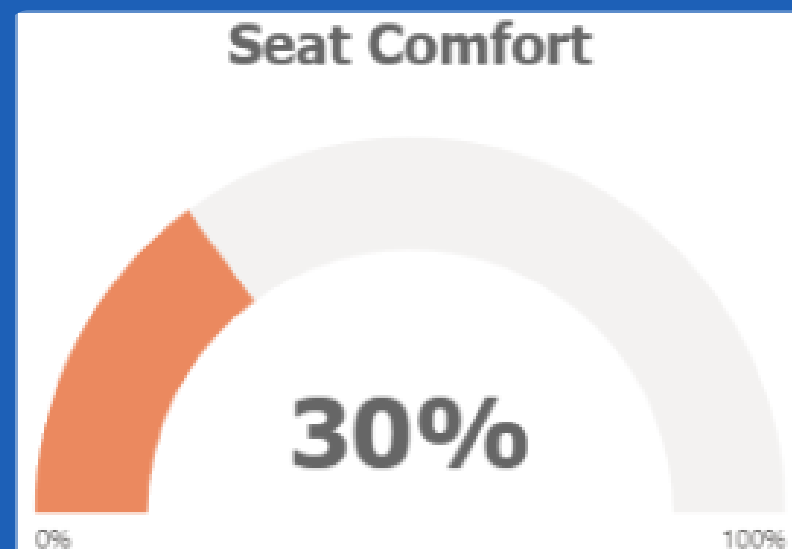
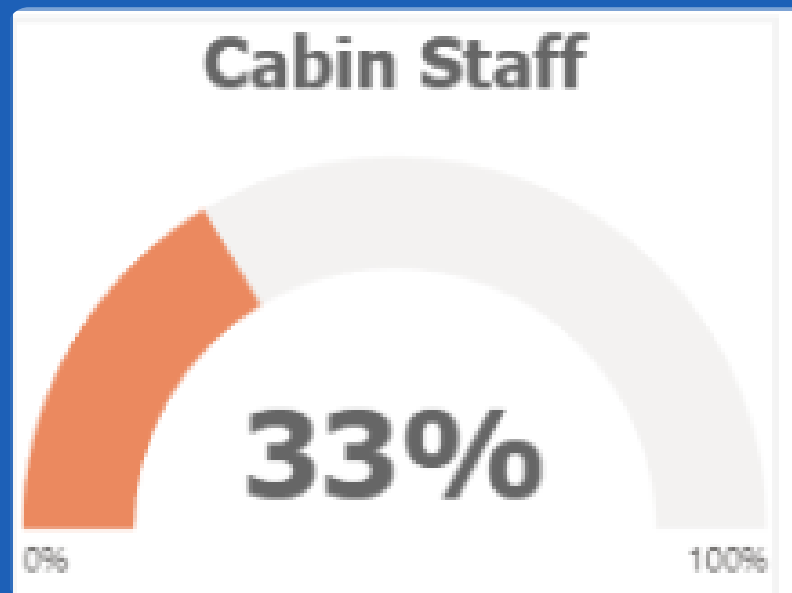
20
Columns

Check For Duplicates
1
no duplicates

Invalid Survey Data
21.882
Missing values

Final Data
1.289
15 columns

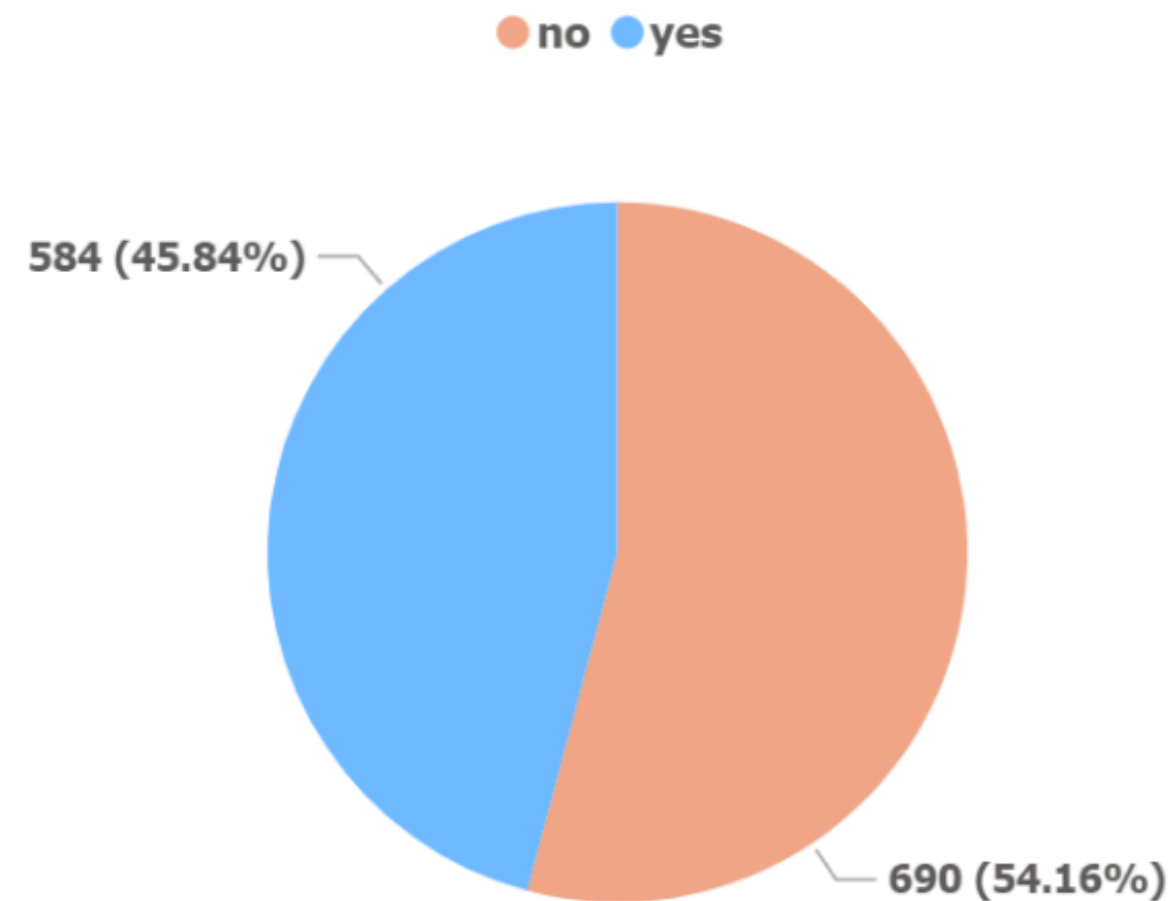
EDA
process



OBSERVATION QUESTIONS

- > What factors most affect overall customer satisfaction (CSAT)?
- > Cabin Staff Service received the highest rating at 33%, followed by Seat Comfort at 30%. However, Wi-Fi & Connectivity scored only 23%, making it the weakest factor.

Recommended

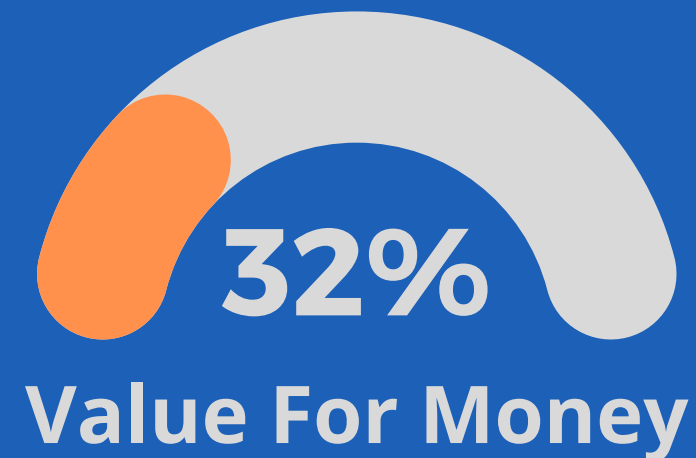


OBSERVATION QUESTIONS

- > Why do almost half of customers (45.84%) not recommend airline services even though the majority (54.16%) recommend them?
- > A total of 45.84% of customers do not recommend the airline services due to the imbalance between satisfactory and unsatisfactory aspects.
 - With a Positive CSAT of 35.40% and an Overall CSAT of 36.30%, dissatisfaction is primarily driven by low scores in Wi-Fi & Connectivity (23.01%), Inflight Entertainment (26%), and Food & Beverages (27%). This inconsistency in service makes customers reluctant to recommend the airline, despite some better-performing aspects, such as Cabin Staff Service (33%).

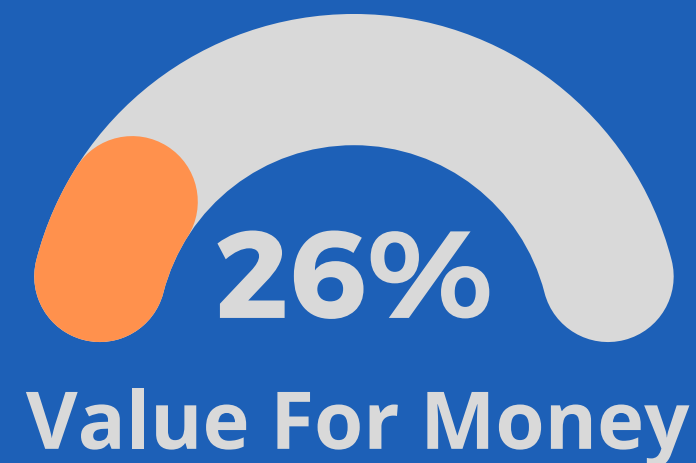
Survey by Purpose

Purpose	Sum Id Surve	Sum Responded	cabis_staff_score	food_score	seat_score	inflight_score	wifi_score	CSAT Score	Value For Money
Solo Leisure	442	442	36%	30%	31%	27%	24.31%	40.72%	31.85%
Family Leisure	282	282	32%	27%	31%	26%	24.13%	33.27%	28.93%
Couple Leisure	324	324	31%	25%	27%	24%	20.78%	32.84%	26.97%
Business	241	241	31%	26%	28%	25%	21.92%	36.19%	26.44%
Total	1289	1289	33%	27%	30%	26%	22.93%	36.24%	28.96%



Solo Leisure

Business

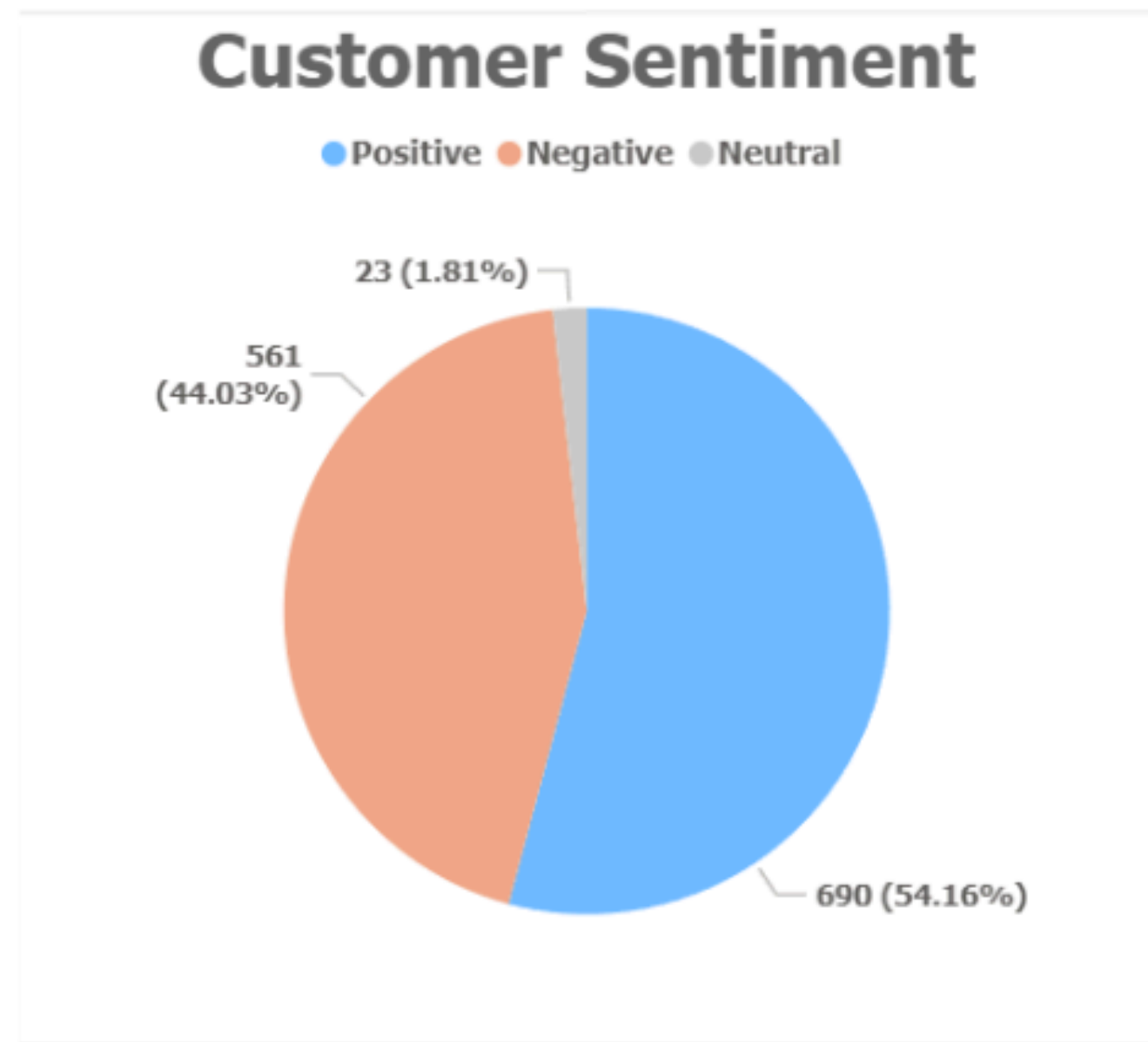


OBSERVATION QUESTIONS

- Why does the Solo Leisure category have the highest CSAT (Customer Satisfaction) and Value for Money scores compared to other categories, while the Business category has the lowest Value for Money score?
- The Solo Leisure category has the highest CSAT and Value for Money scores because customers in this segment tend to have more flexible expectations, prioritizing comfort and entertainment, which makes it easier to meet their satisfaction.
- In contrast, the Business category has the lowest Value for Money score because customers prioritize time efficiency and premium amenities, such as connectivity. When these expectations are not met, the service is perceived as not worth the cost.



OBSERVATION QUESTIONS



Why is the proportion of negative sentiment more dominant than positive sentiment across all travel destination categories, including Solo Leisure, Couple Leisure, Family Leisure, and Business?

Sentiment Distribution

- Negative sentiment dominates across all categories, with the highest occurrence in Couple Leisure.
- Although Solo Leisure has the highest positive sentiment, it remains predominantly negative.

OBSERVATION QUESTIONS



What factors led to an upward trend in negative sentiment from 2020 to 2023, despite an increase in positive sentiment scores at the same time?

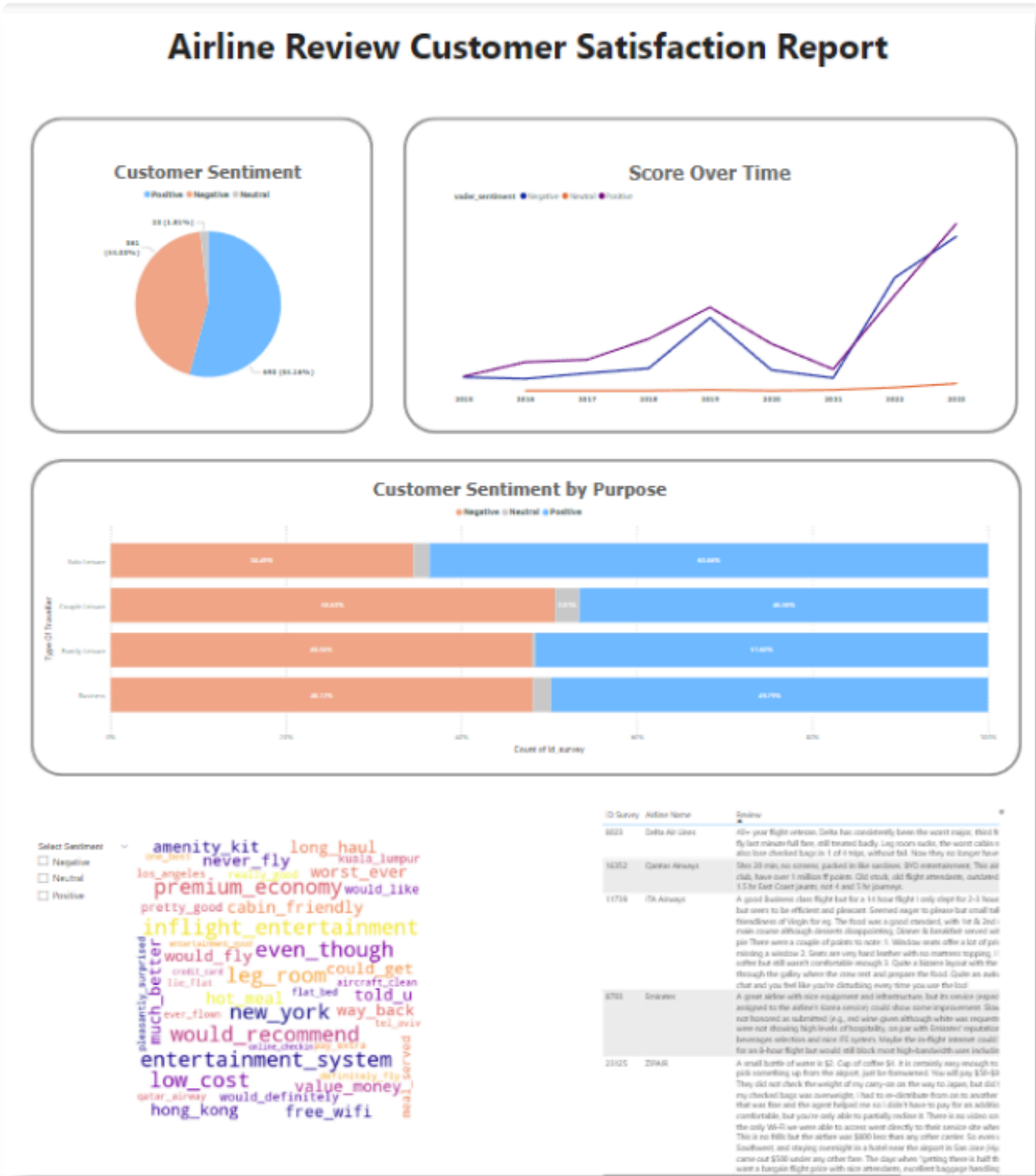
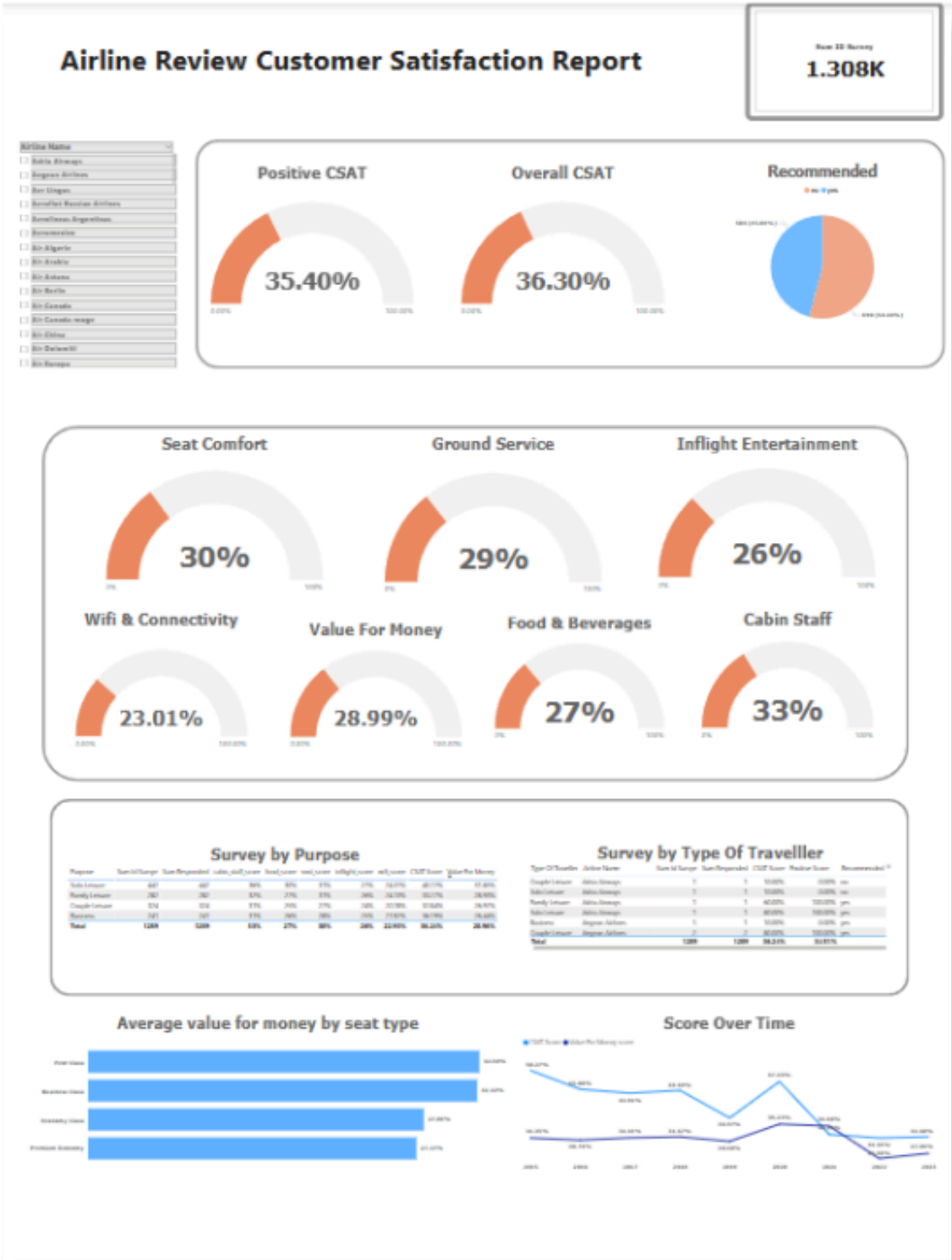
Positive sentiment increased significantly post-2020, but negative sentiment still persisted through 2023.

Negative Sentiment Factors (2020-2023)

- **Post-pandemic:** Travel restrictions and health procedures have contributed to customer dissatisfaction.
- **Operational issues:** Reduced service levels due to limited staff and flight delays.
- **High expectations:** Efforts to improve services have raised customer expectations, but they have not yet been fully met.

DASHBOARD

a present an interactive dashboard that features Customer Satisfaction analysis and Sentiment Analysis. This dashboard offers valuable insights to support stakeholders in making informed strategic decisions.



WHAT WE PROPOSE



Implementation of Recommendations to Improve Customer Satisfaction and Reduce Negative Sentiment

Improved Wi-Fi and Connectivity

- **Recommendations:** Increase internet speed and stability; offer free services or low-cost packages to loyal customers.
- **Benefits:** Enhances customer experience, particularly for business travelers.

Reduce Dissatisfaction & Increase Recommendations

- **Recommendations:** Address delays with schedule automation; improve staff training and evaluate post-pandemic policies.
- **Benefits:** Mitigates negative sentiment and improves service perception.

Focusing on Customer Segments

- **Solo Leisure:** Offer solo traveler packages at competitive prices.
- **Business:** Enhance comfort and efficiency of business class services.
- **Family & Couple Leisure:** Add amenities such as children's play areas and entertainment for couples.

Overcome Negative Sentiment

- **Couple Leisure:** Improve cabin comfort and offer discounts for couples.
- **General Strategy:** Use post-flight surveys and provide quick responses to customer complaints.

Manage Customer Expectations

- **Recommendation:** Ensure transparency in travel policies and facility information to align with customer expectations.
- **Benefits:** Reduces dissatisfaction caused by unmet expectations.

Expected Results

By implementing these measures, the airline can:

- Significantly increase customer satisfaction.**
- Reduce negative sentiment, particularly in the most affected categories.**
- Enhance the airline's image through higher customer recommendations.**



THANK YOU

By Dimas Hardianto

My Drive Project