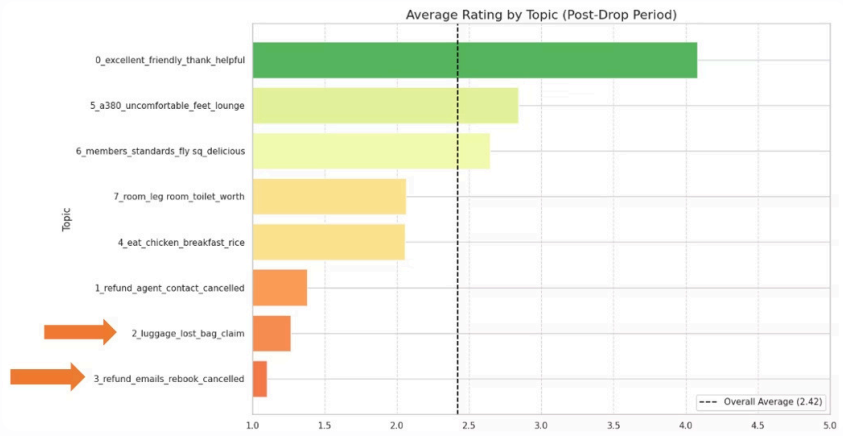
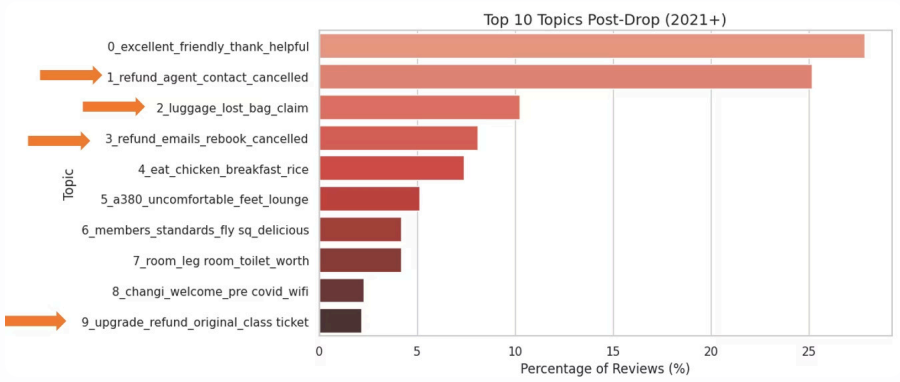
Customer Review Analysis Of Singapore Airlines

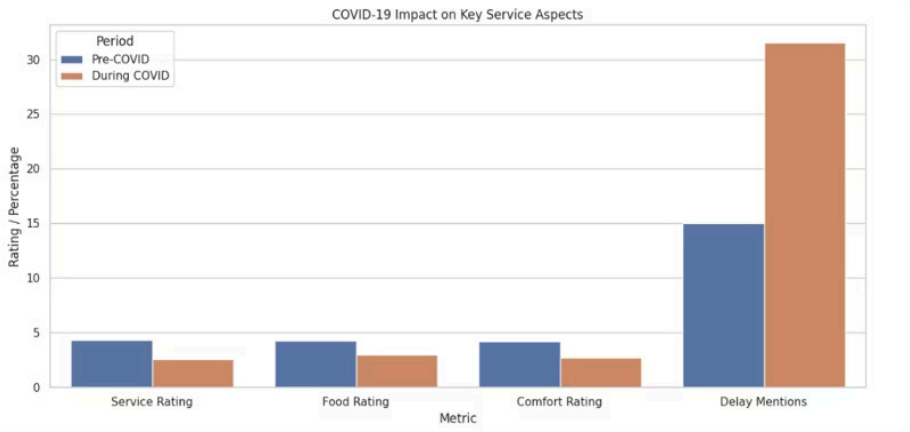
Exploratory data analysis of airline reviews with sentiment classification and topic modeling.

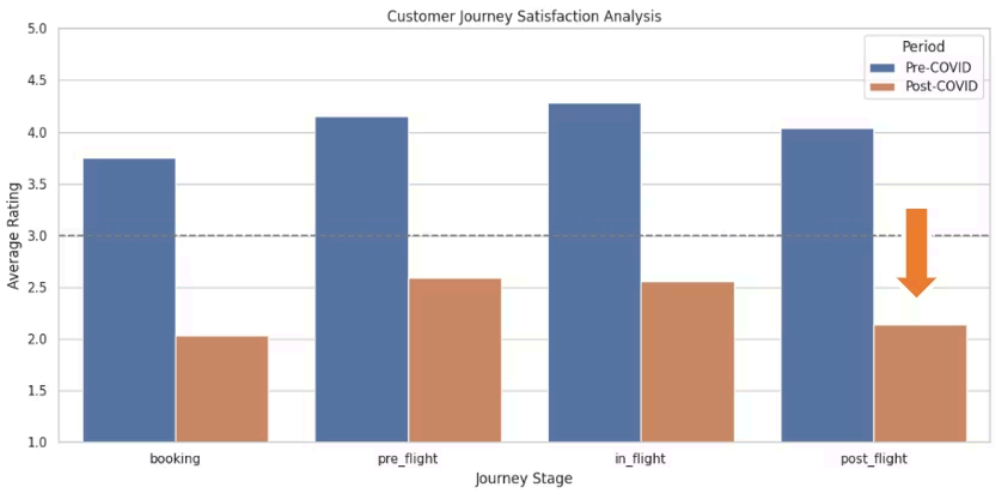
Segmented by time period, rating, with focus on post-COVID negative feedback.

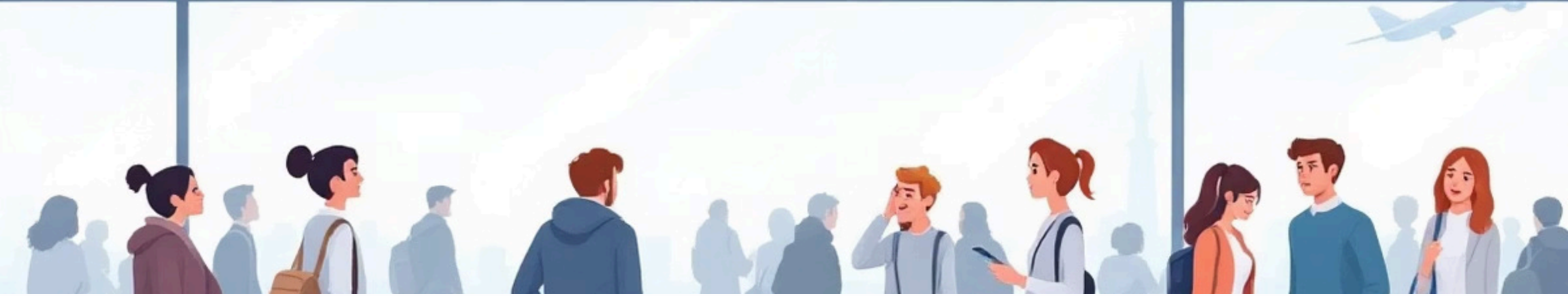
Results of the Analysis











Emerging Pain Points & Segment Patterns

Refunds & Cancellations

Major post-COVID complaint area

Lost Baggage

Baggage tracking issues increasingly reported

Service Delays

Check-in problems frustrating customers

Clustering further revealed distinct passenger profiles —

- *Cluster 0 & 1*: Likely regular flyers with moderate satisfaction
- *Cluster 2* : Smaller group, likely complaints or niche negative feedback
- *Cluster 3* : Predominantly high-value customers praising premium services

These insights helped prioritize areas with the greatest impact on satisfaction.

Recommendation 1

Strengthen Refund System & Cancellation System

Goal: Transform refund experiences into moments of transparency, control, and empathy.

Develop a Smart Refund Experience Framework

Business Strategy: Introduce a **"Self-Service Smart Refund Portal"** within the mobile app and website. This puts control into the passenger's hands and reduces dependency on overwhelmed service centers.

Transparency focus: Real-time refund tracking like e-commerce returns (think: Amazon-style refund timelines).

Technical Enhancement: Integrate AI models to:

- Understand refund-related customer queries.
- Automatically classify and route requests by urgency.
- Suggest personalized refund options (voucher, credit, bank transfer).

Business Impact

- Boosts customer trust and loyalty in service recovery.
- Reduces operational load on support staff.
- Enhances brand image as a proactive, tech-forward airline.

Recommendation 2

Proactive Lost Baggage Monitoring System

Goal: Turn baggage mishandling into a proactively managed customer trust-building opportunity.

Deliver a Real-Time Baggage Journey Experience

Business Strategy: Launch a **"Track My Bag"** feature in the mobile app that updates customers in real-time from check-in to carousel pickup.

Proactive Disruption Protocols: If baggage is delayed or missing:

- System automatically alerts staff.
- Customer gets apology + voucher based on severity/tier.
- A chatbot follows up to confirm receipt and satisfaction.

Tech Enhancement: Use RFID or Bluetooth baggage tags + airport IoT sensors for precise location tracking.

Use customer sentiment analysis (via review and complaint data) to trigger automatic apologies or vouchers when delays or losses are predicted.

Business Impact

- Enhances the end-of-journey satisfaction, which influences online reviews.
- Transforms chaotic pain point into recovery moment.
- Encourages customers to continue flying instead of switching brands post-incident.

Recommendation 3

Enhance Ground Experience in High-Traffic Airports

Goal: Deliver seamless, fast, and clear ground experience at key airports to shape first impressions.

Reimagine Airport Ground Operations with Data

Business Strategy: Partner with key hub airports (e.g., Changi, Heathrow) to launch a **"Seamless Journey Initiative"**, focused on reducing wait times and stress.

Smart Optimization:

- Analyze past review timestamps to identify peak stress windows.
- Use clustering + demand forecasting to recommend dynamic staffing levels.
- Display live queue estimates in the app and assign fast-track routes to premium passengers or those at risk of delay.

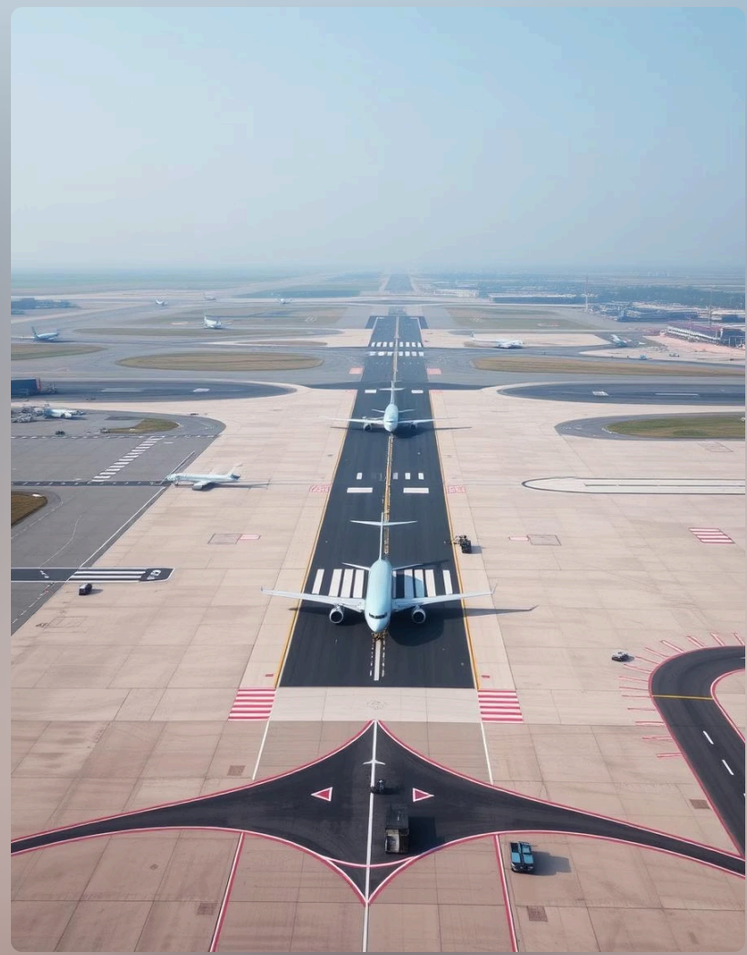
Ground Sentiment Monitoring

Set up live dashboards that aggregate social, review, and feedback data to:

- Flag airport-specific service issues.
- Allow central HQ to intervene or retrain staff when recurring themes emerge

Business Impact

- Improves first-touch satisfaction, especially in economy class.
- Reduces bottlenecks and delays, boosting on-time performance.
- Builds reputation of being empathetic even when things go wrong.



Where the Experience Breaks?

Customer Journey Integration

Passenger books → Prepares → Reaches airport → Checks in → Flies → Receives bags

All 3 issues lie at **key failure points** of the journey and collectively influence **overall satisfaction and rating**.

Bad Check-In → Missed Flight → Refund Request

Delays at check-in due to long queues or poor communication can cause passengers to miss their flights. This leads to refund or rebooking requests, often made in frustration — turning an operational issue into a financial and emotional one for the customer.

Late Transfer → Lost Bag → Complaint Escalation

A short or delayed connection can cause baggage to miss the transfer, leading to lost luggage. Without timely updates or support, the issue escalates into a serious complaint, damaging trust and satisfaction.

Additional Improvement Areas

Food Quality & Variety
Was praised pre-drop, now draws negative reviews for poor meals.
Recommendation: Reinstate premium meal options and refresh menus regularly, even in economy.

Cabin Crew Service
Previously a strength, now noted as slow or inattentive.
Recommendation: Retrain crew for post-COVID empathy and faster response on full flights.

Economy Seat Comfort
Once acceptable, now criticized for tight legroom and discomfort.
Recommendation: Promote Economy Plus upgrades and add minor comfort boosters (pillows, footrests).