UNITED HACKATHON AIRLINES

Fly the Friendly Skies

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DELIVERABLES & WORKFLOW

Key Factors contributing to extended call durations Key drivers of long AHT and AST quantify the percentage difference between the average handling time for the most frequent and least frequent call reasons

Analysing transcripts and call reasons to identify granular reasons that could be resolved via self-service options in the IVR system. Improvements to the IVR options to effectively reduce agent intervention in these cases.

Understanding the primary reasons for incoming calls and accurately categorizing call reasons.

Data Preprocessing

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Analyze Call Duration

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Sentiment and Tone Analysis

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Silence Percentage Analysis

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Call Reason Analysis

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Agent Performance Evaluation

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Customer Loyalty Impact

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Insights Generation

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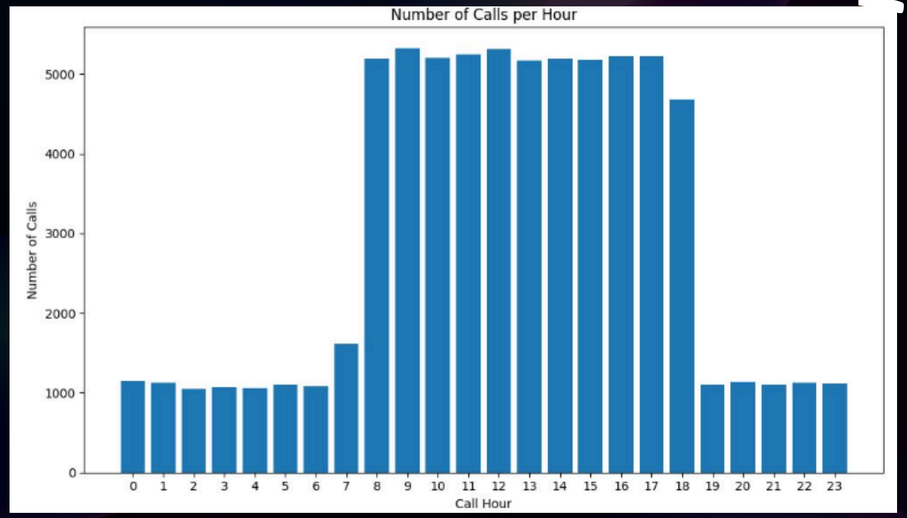
Recommendations

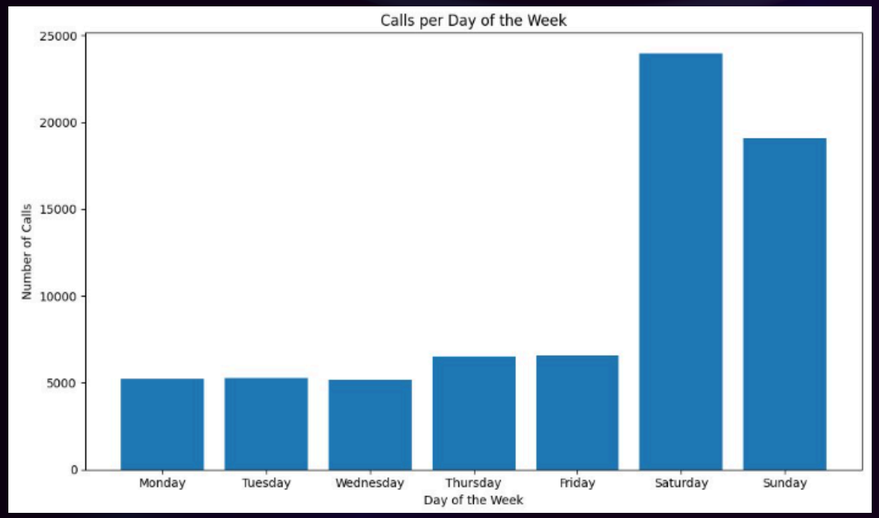
1.1 HIGH VOLUME CALL PERIOD



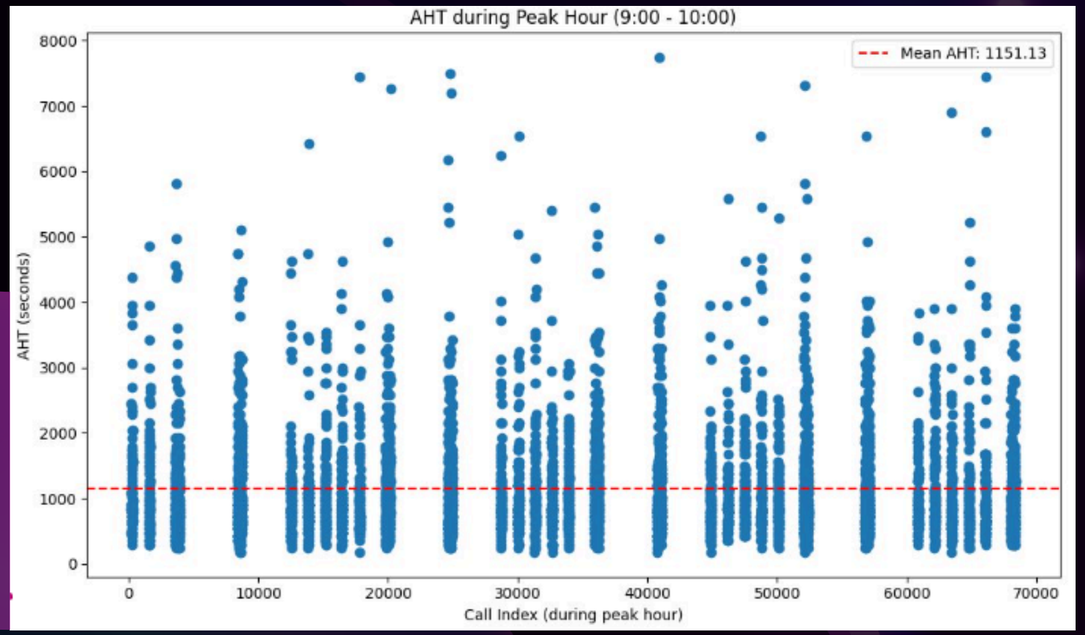
Peak range is 9 AM - 6 PM

Staffing Needs : - Can schedule more agents during peak times to reduce wait times and improve customer satisfaction.

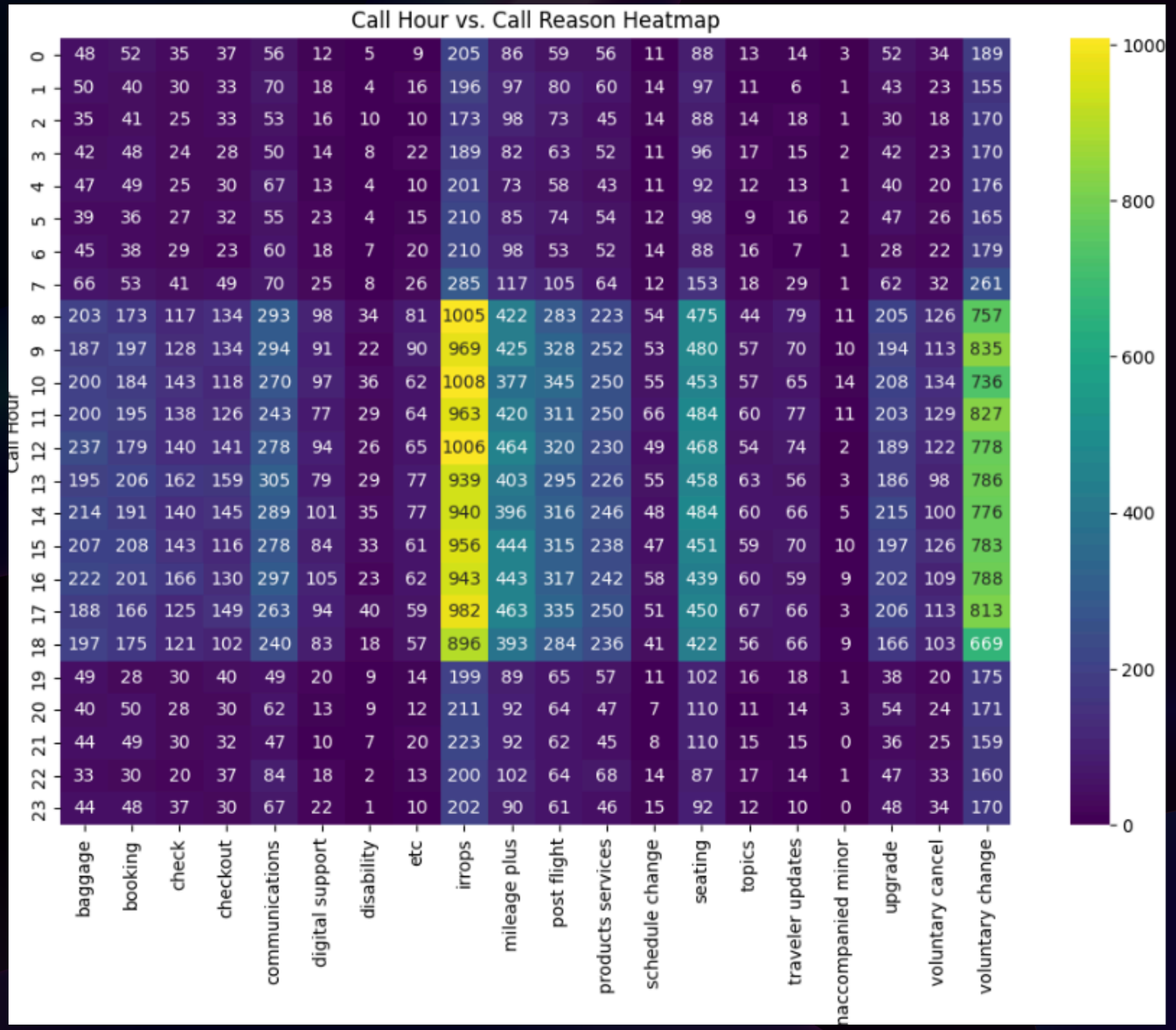
Cross-Channel Integration :- can consider increasing support on other channels (like chat or email) during these times to provide a seamless customer experience.



Maximum calls received on Saturday



During peak hours majority calls have AHT less than mean AHT, implies straight forward queries that can be routed through IVR



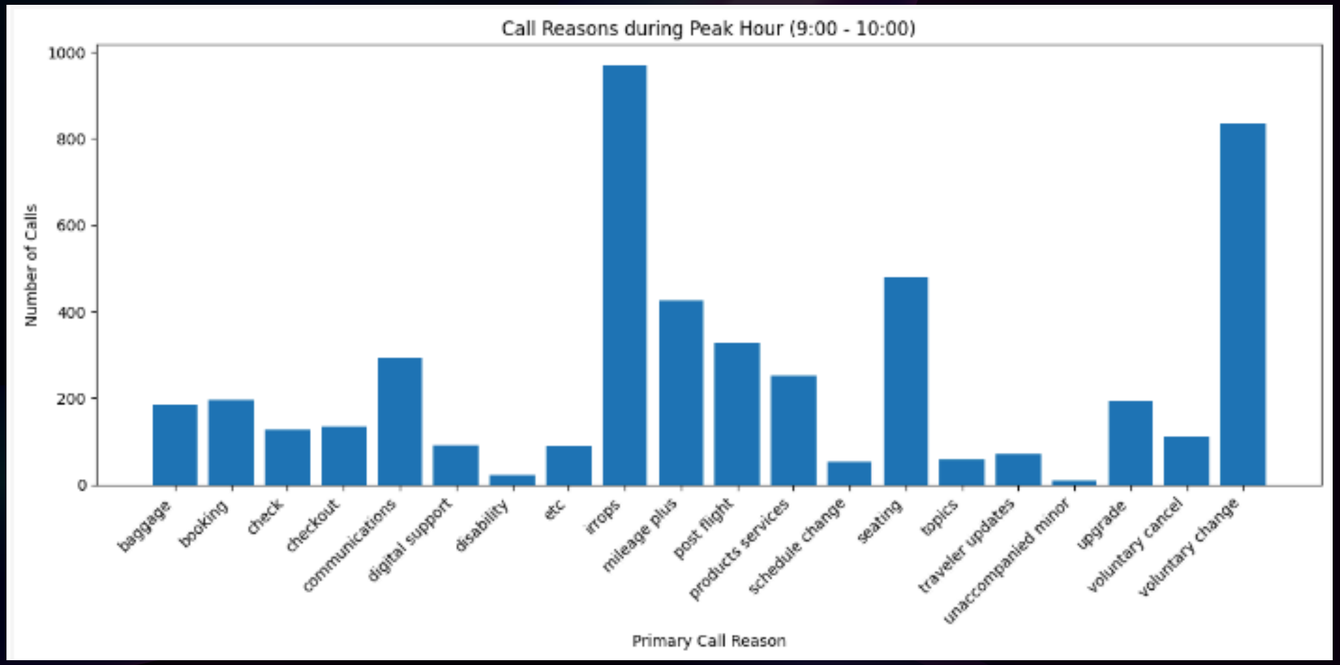
1. **Operational Disruptions Impact**: Irregular operations (irrops) generate the highest call volumes, indicating a need for better customer communication during disruptions.

2.**Loyalty Program Confusion**: High call volumes for "mileage plus" suggest frequent customer queries, highlighting the need for clearer information or self-service options.

3.**Predictable Call Peaks**: Voluntary and schedule changes show periodic spikes, pointing to predictable customer behavior, helpful for planning resources.

4.**Improvement Opportunities**: Fewer calls in categories like "digital support" and "checkout" may indicate either a smooth process or low service awareness, warranting further exploration.

This heatmap shows the distribution of primary call reasons across different time periods. Darker shades represent higher call volumes for specific reasons, such as "irrops" and "mileage plus," which stand out as the most common reasons for calls. Call volumes for categories like "voluntary change" and "seating" are also prominent in certain time frames. The graph highlights peak call volumes during specific intervals for different service issues.



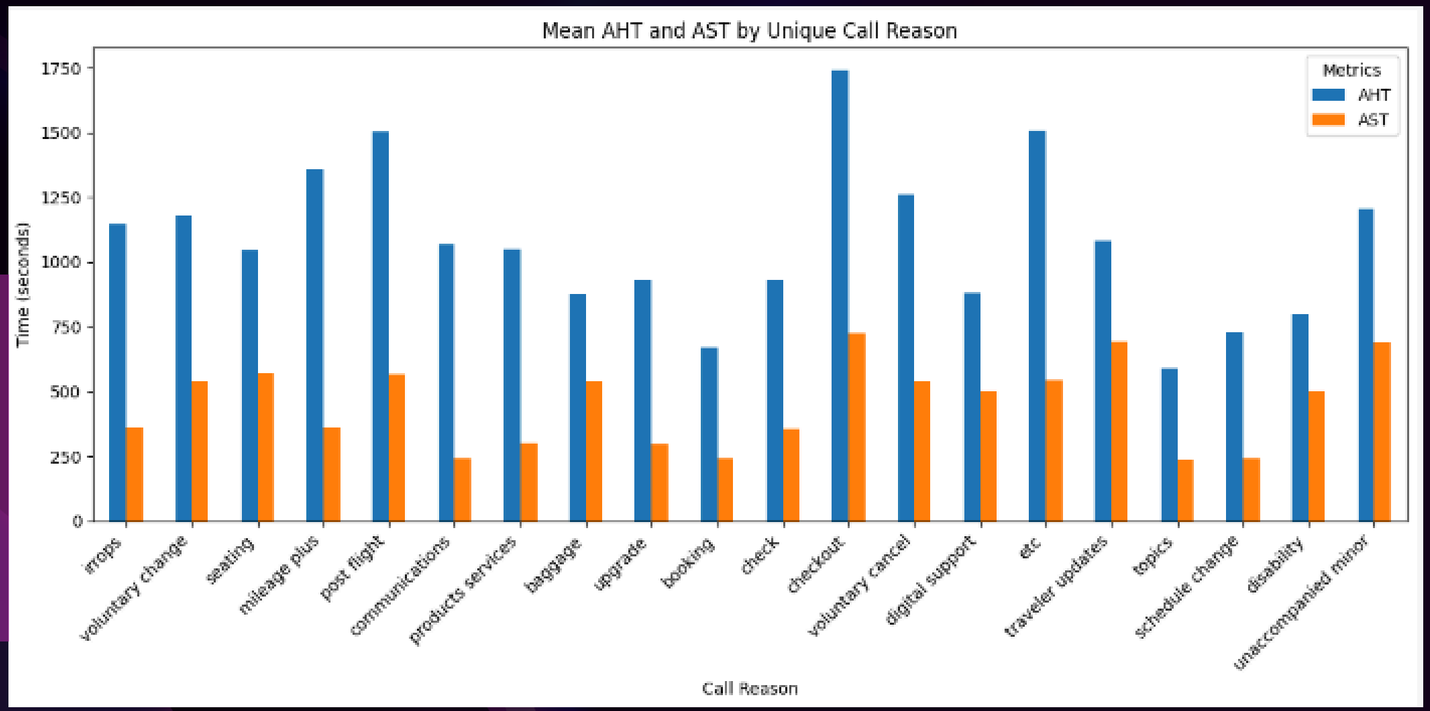
Maximum calls during peak hour are related to irrops and voluntary change.

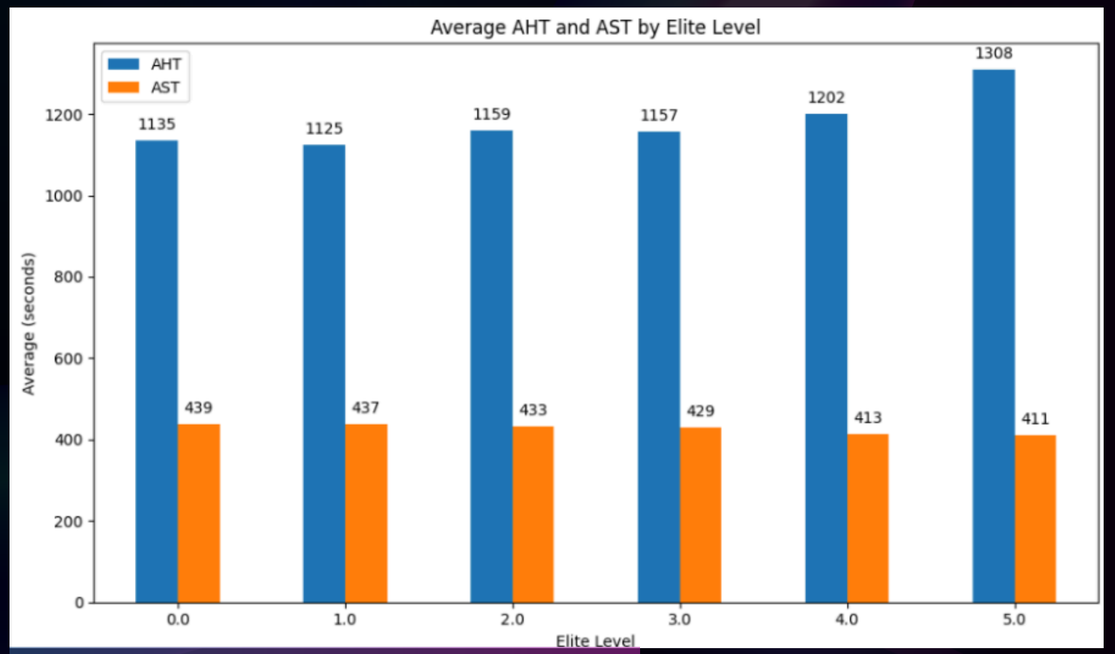
Proactive Communication: Enhance proactive communication strategies during these peak times to inform customers about irrops and minimize confusion or frustration, it can include:-informed mai,Informed IVR calls,informed watsapp and normal SMS.

Real-time Updates: Real-time updates functionality in website regarding irrops can help keep customers informed and potentially reduce the number of calls.

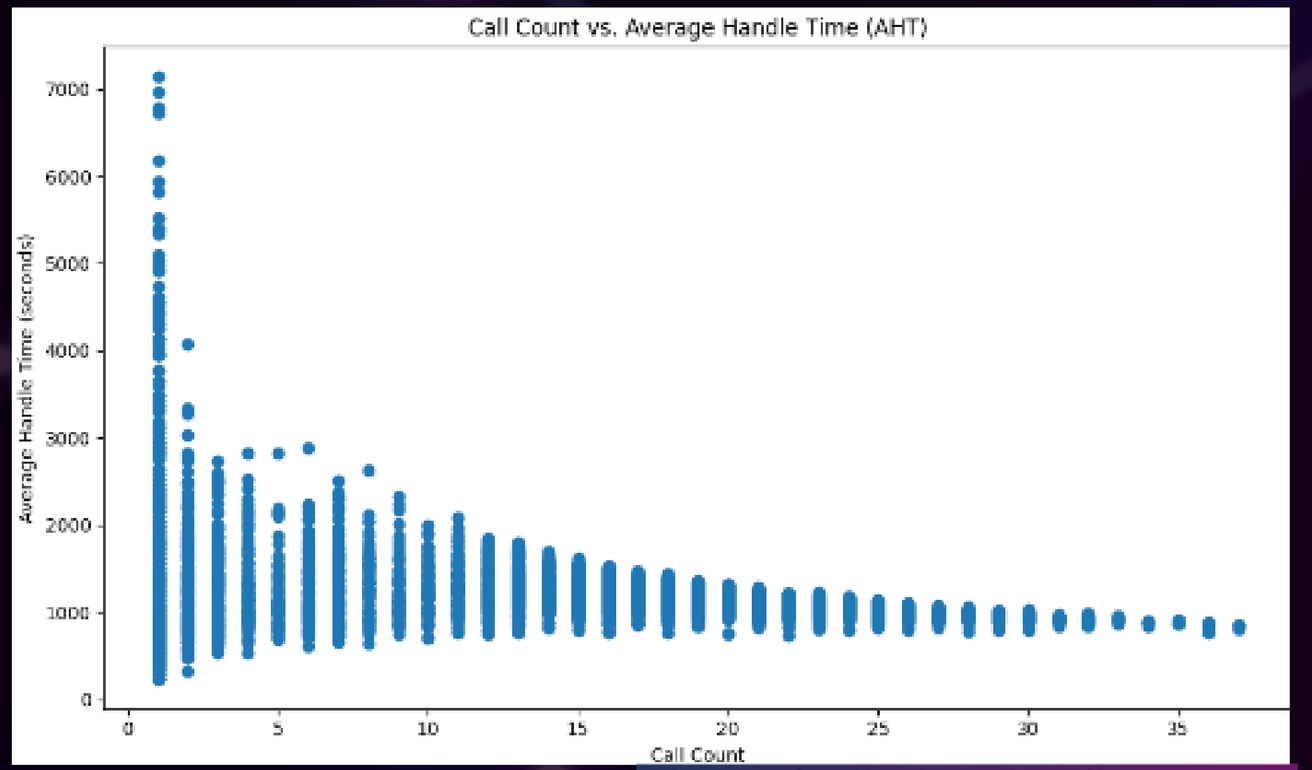
1.2 KEY DRIVERS OF LONG AHT AND AST

Checkout related queries require the most time to handle and have the longest wait times, while **topics** is dealt with most efficiently. These insights can guide resource allocation and process improvements in the call center to enhance overall service efficiency.

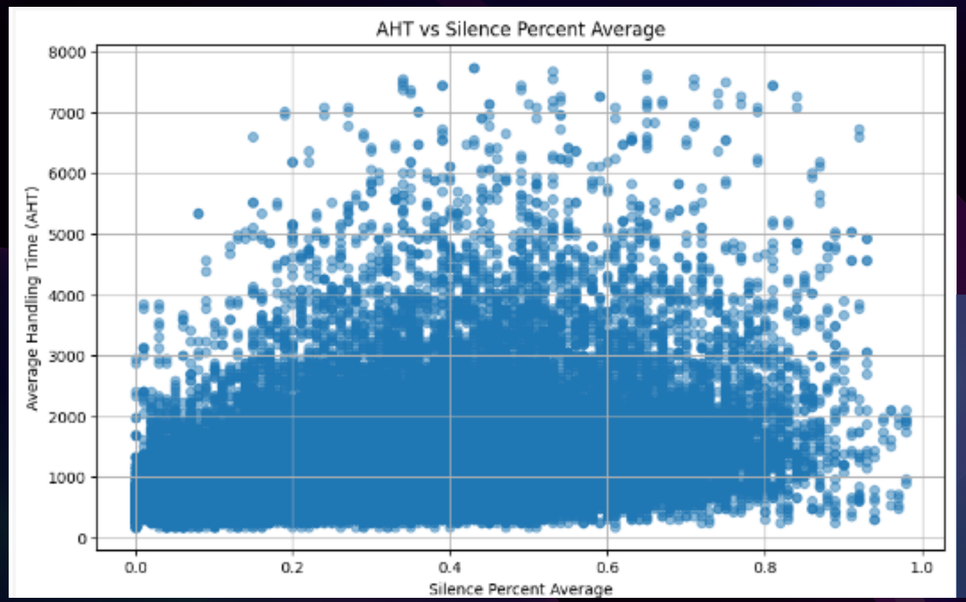




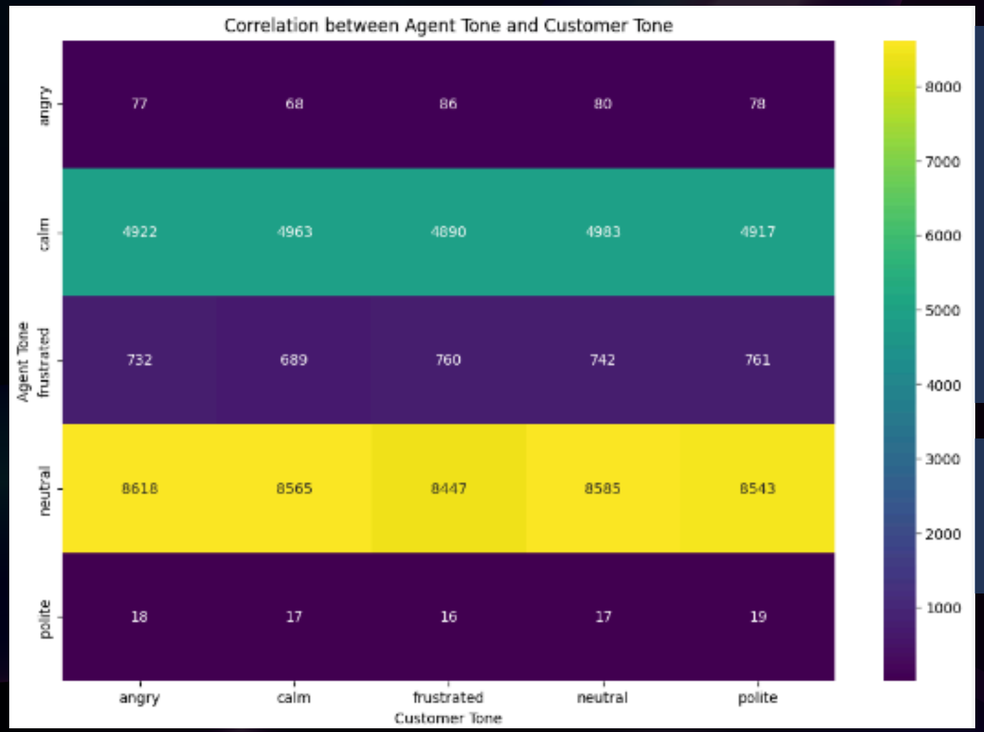
AHT is directly proportional to customer elite level code
AST is inversely proportional to customer elite level code
Thus some maximum time limit criteria should be kept so that after maximum duration client's call is disconnected and is connected later after peak hours, this will also reduce AST



If AHT of call is less this allows agent to handle more calls

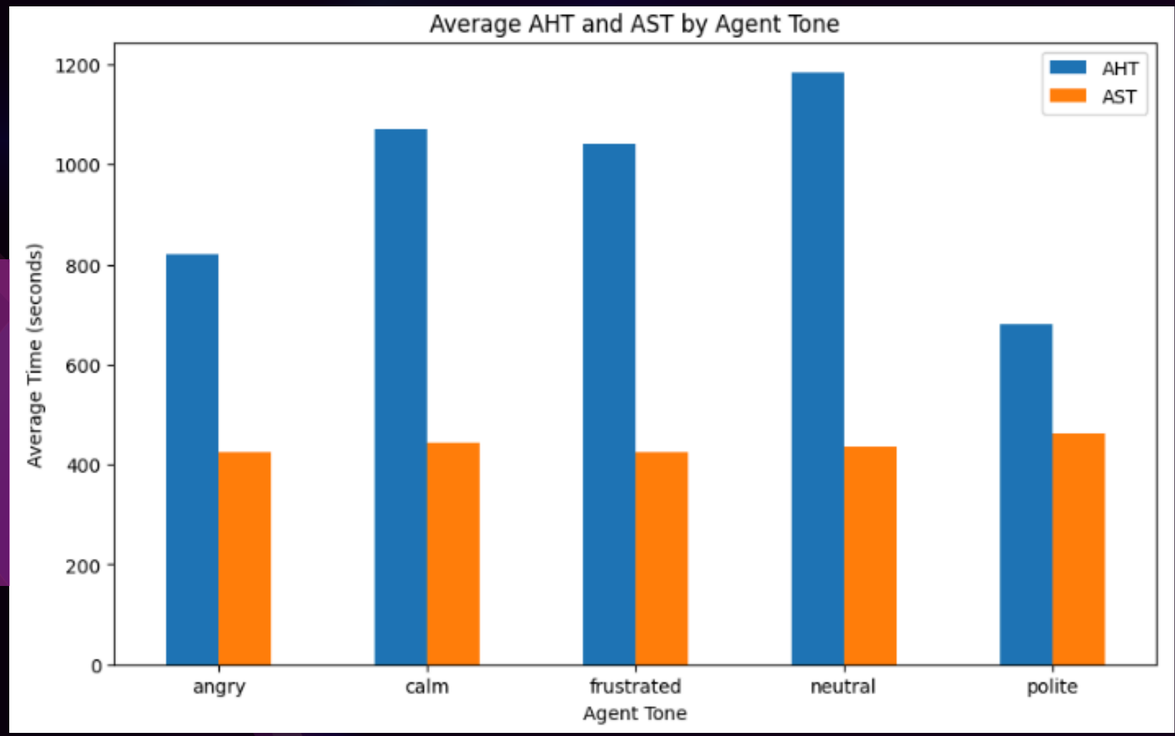


For higher AHT silent percentage is more implies agent takes too much time to ans query

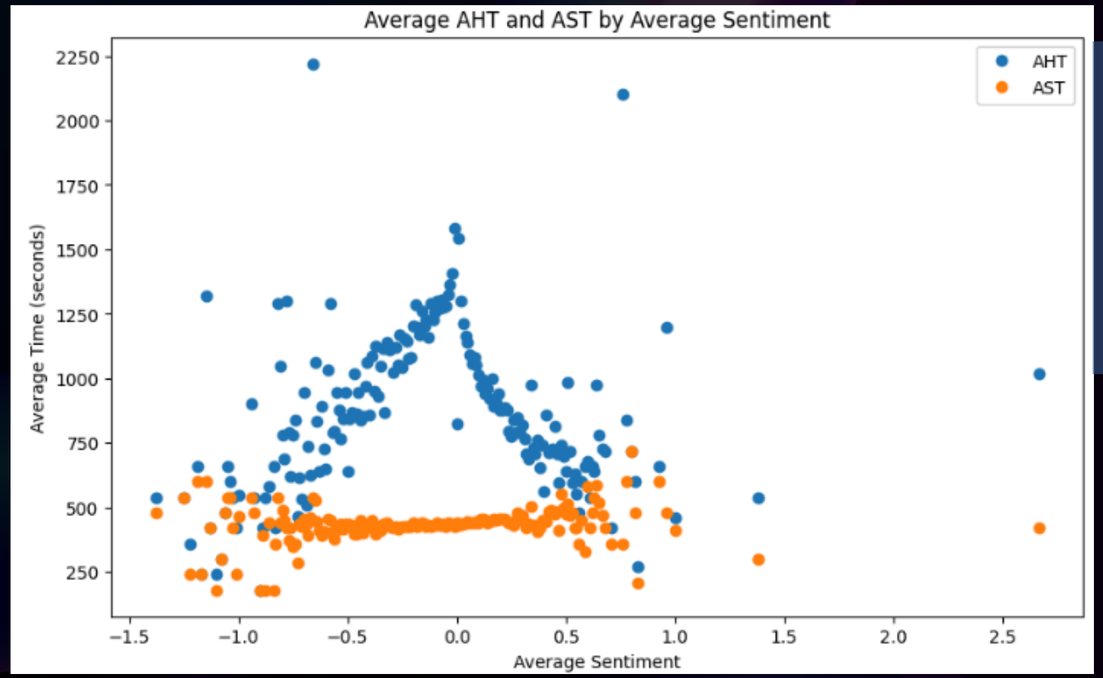


- Neutral and Calm Interactions dominate, with agents often responding in a neutral or calm tone, regardless of the customer's tone.
- Frustrated or Angry Customers are relatively rare, and even then, agents typically stay calm or neutral, demonstrating professionalism.
- Polite Interactions are the least frequent, suggesting that politeness is less common from both sides during calls.
- Calm Responses from agents are most common when the customer is calm, showing alignment between customer and agent demeanor in these cases.

Train agents on tone : Focus on training agents to maintain a positive tone when interacting with members to enhance satisfaction and loyallty

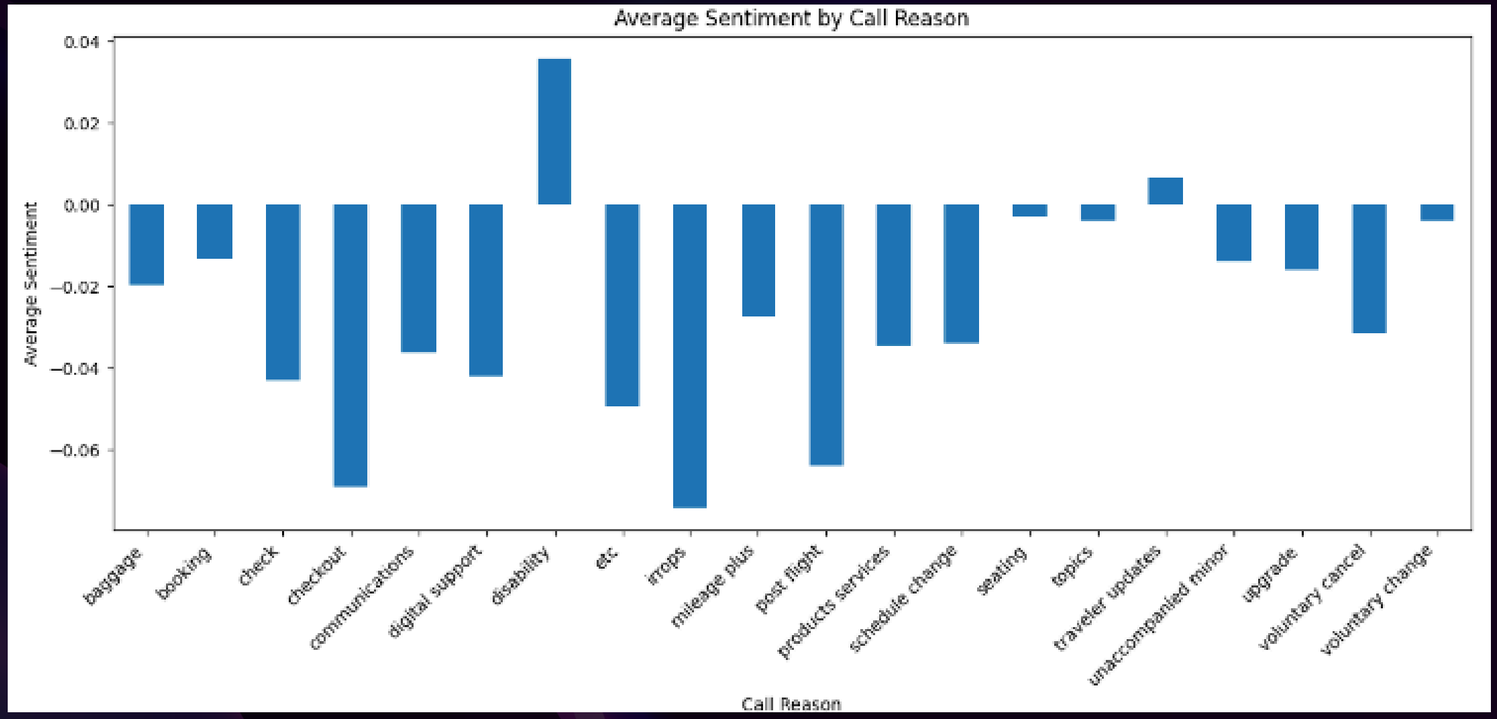


- Agents who are polite seem to resolve issues the fastest, likely because customers may feel more comfortable and satisfied, leading to quicker resolutions.
- Agents with a neutral tone have the longest handle times, suggesting that a neutral approach may not engage the customer as effectively, leading to more drawn-out conversations.

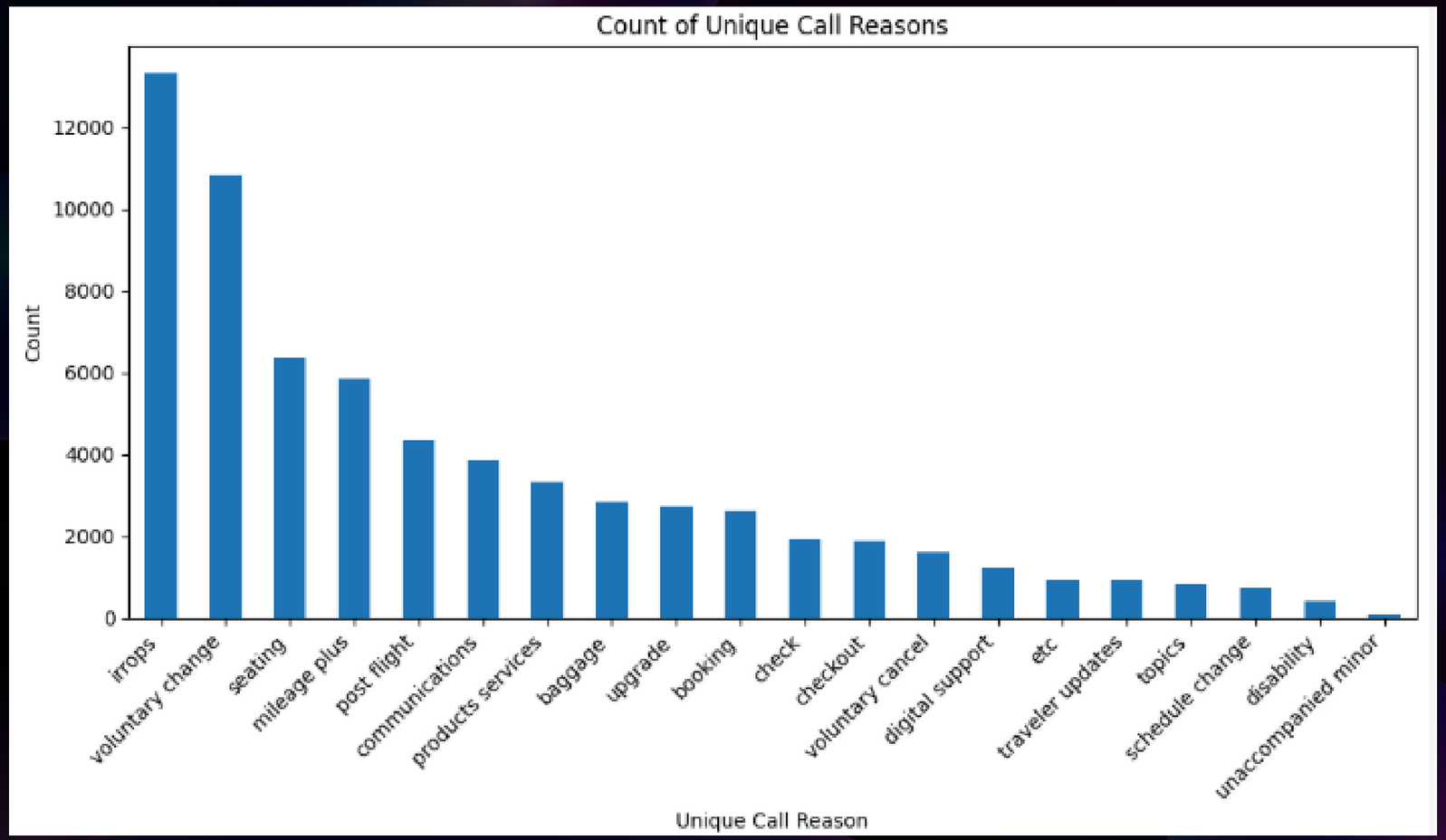


- Handle time varies most when conversations are neutral or slightly negative, suggesting indecision or complex issues.
- Extremely negative or positive sentiments lead to quicker resolutions, possibly due to clearer customer needs.
- Waiting time remains stable across all sentiment levels, showing no impact of sentiment on wait duration.

- **Negative Sentiment Drivers:** Categories like checkout, digital support,irrops and post flight have the most negative sentiment, indicating customer dissatisfaction, likely due to service disruptions or technical issues.
- **Positive Sentiment Areas:** Disability and traveller updates have slightly positive sentiments, suggesting good handling or satisfactory outcomes in these areas.
- **Neutral/Low-Impact Reasons:** Categories such as upgrade, voluntary change, and seating show relatively neutral sentiment, indicating fewer emotional reactions or well-handled requests.
- **Focus for Improvement:** The negative sentiment in core service areas like irrops and checkout suggests potential for improvement in customer support and communication during disruptions.



1.3 PERCENTAGE DIFFERENCE AHT FOR MOST FREQUENT AND LEAST FREQUENT CALL REASONS

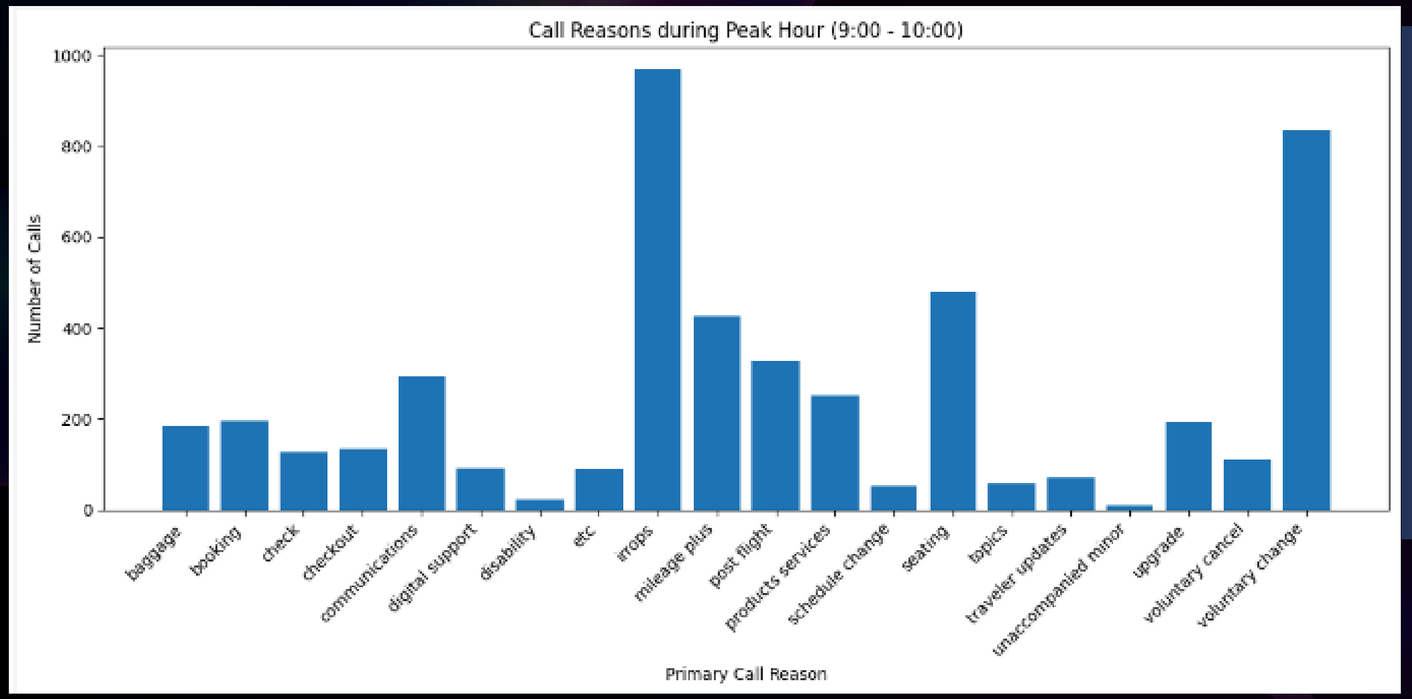


Most frequent call reason is irrops
Least frequent call reason is unaccompanied minor

Percentage difference in AHT between most and least frequent reasons: -5.16% -> This indicates that most frequent reason take 5.16 % lesser time on average than those for least frequent reasons

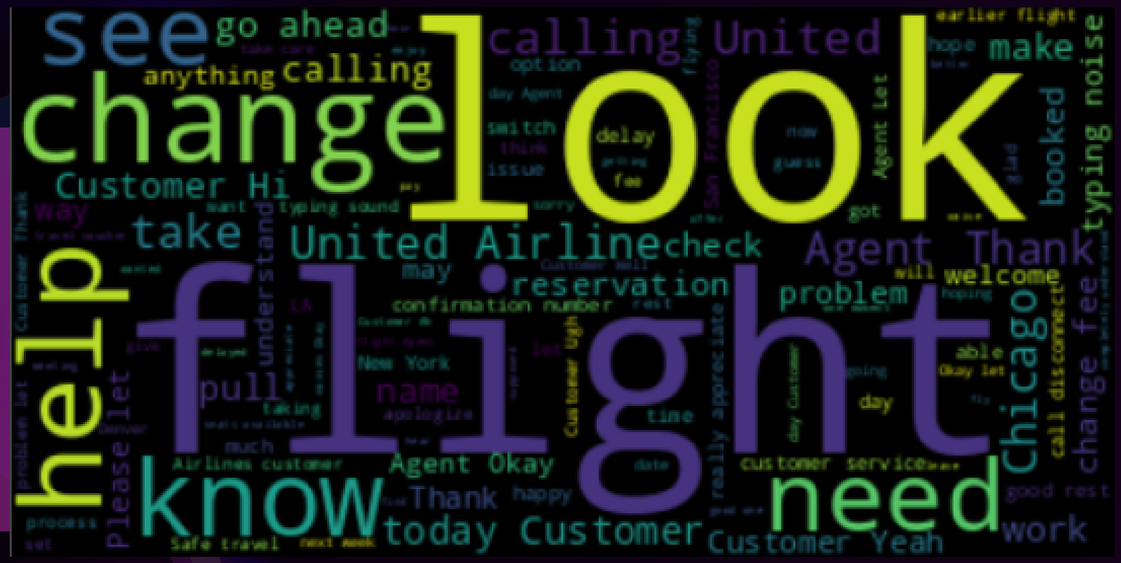
Percentage difference in AST between most and least frequent reasons: -47.68% -> This indicates that most frequent reason take 47.68 lesser speed on average than those for least frequent reasons

2.1 REASONS THAT COULD BE RESOLVED VIA SELF-SERVICE OPTIONS IN THE IVR SYSTEM



This graph illustrates the distribution of call reasons during the peak hour of 9:00 - 10:00. The most frequent call reason is **irrops** with nearly 1000 calls, suggesting it may be a catch-all category for miscellaneous issues. **Voluntary change** is the second most common reason, with over 800 calls. The least common reasons include **disability** and **unaccompanied minor** with fewer than 100 calls each. This information could be crucial for staffing decisions, training focus, and potentially streamlining frequently occurring issues to improve overall call center efficiency during peak hours.

Most frequent topics in customer calls are related to **flight changes** and **help requests**. **Look, change** dominate, suggesting that customers are often seeking assistance with booking modifications or flight-related inquiries. City names like **Chicago** indicates specific destinations being frequently discussed. Additionally, terms like **reservation** and **problem** reflect customer concerns about flight management and bookings. This points to a focus on improving self-service options for flight changes and bookings.



CALL REASONS THAT CAN BE HANDLED BY IVR

TRAVELLER UPDATES

IVR can provide real-time traveller updates, ensuring passengers receive timely information about flight statuses without needing to wait for an agent.

BOOKING & SEATING

Facilitates faster reservations and seats selection or confirmations

UPGRADE

Allow passengers to quickly access available options and promotions

DIGITAL SUPPORT

IVR can guide users through common digital support issues, reducing wait times and helping customers resolve problems independently.

Smart call assistance approach for handling calls during peak times

Smart Call Assist

1. Customer Call Initiated
2. Are Agents Available? If not then
3. Record Customer Message
4. Transcribe Voice Message to Text
5. Pass Transcribed Text to UA's customised Chatbot
6. Chatbot Processes Query and Returns Response
7. Display Response to Customer
8. Is Query Resolved? Yes → End Interaction
9. Thank Customer

2.2 IMPROVEMENTS TO THE IVR OPTIONS TO EFFECTIVELY REDUCE AGENT INTERVENTION

Simplified IVR menu	Proactive IVR Messaging for Common Issues	Offer Enhanced Self-Service for Technical Support
Multiple nested sub-menus and options leads to confusion	Implement proactive messaging for known recurring issues based on data from previous calls.	Provide step-by-step troubleshooting guides directly in the IVR system for common technical problems.

Real-Time Information	Include Emotional and Sentiment Detection	Enhanced Natural Language Processing (NLP)
Ensure the IVR system provides real-time updates on flight status, gate changes, and delays, directly pulling data from airline systems.	Use sentiment analysis in the IVR system to detect customer frustration early in the call and adjust the interaction accordingly.	Implement advanced NLP to allow passengers to speak naturally rather than using rigid commands, making interactions smoother.

3.1 PRIMARY REASONS FOR INCOMING CALLS

Irrops (Irregular Operations)

These situations often involve complex itinerary changes or disruptions, requiring personalized solutions and immediate decision-making by agents.

Voluntary Change

Passengers making voluntary changes to their bookings may need advice on fare differences, alternate routes, or other options, which are better handled by a human agent for flexibility.

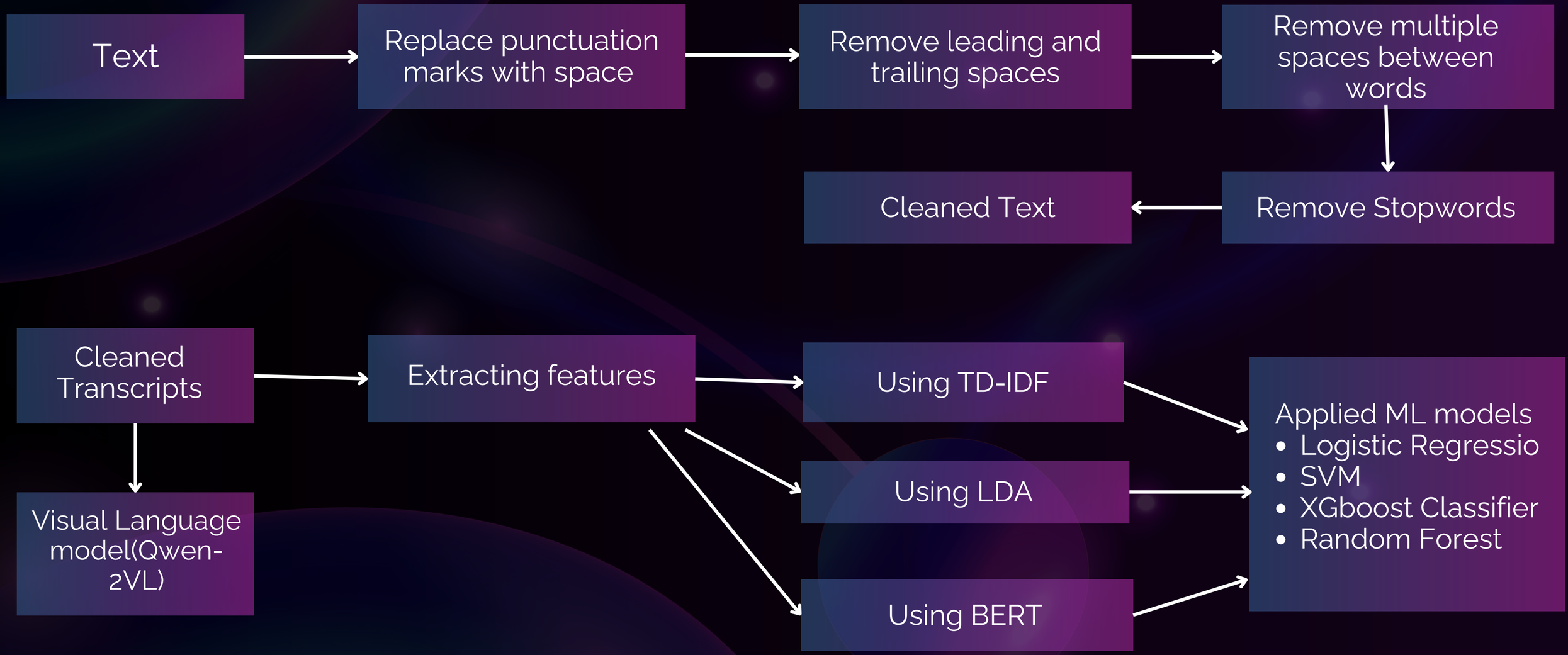
Seating

Seat changes, upgrades, or special seating requests often involve specific availability or preferences that require agents' real-time assistance to meet customer needs.

Mileage Plus

Queries related to frequent flyer accounts can involve complex adjustments, point redemptions, or discrepancies that require secure, personalized handling by an agent.

ANALYSING CALL TRANSCRIPTS



SUPPORTING MATERIALS

- https://github.com/Aryanshukla206/SKYHACK-2.0-United-Airlines
- https://analytics.zoho.in/open-view/386933000000002289
- https://analytics.zoho.in/open-view/386933000000002484/abe1285bcde8e21cefe45fa7b53a53e8
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- https://colab.research.google.com/drive/1gMogMnB7K9LSSEH8Zdy2qXCOBy-UbDI5?usp=sharing

THANK YOU!