

PRESENTATION BY OLAJUWON YAKUB

JOB SIMULATION FROM FORAGE

CUSTOMER REVIEW ANALYSIS

BRITISH AIRWAYS 

About the company

British Airways plc (BA) is the flag carrier airline of the United Kingdom. It is headquartered in London, England, near its main hub at Heathrow Airport.

The airline is the second largest UK-based carrier, based on fleet size and passengers carried, behind easyJet. In January 2011 BA merged with Iberia, creating the International Airlines Group (IAG), a holding company registered in Madrid, Spain. IAG is the world's third-largest airline group in terms of annual revenue and the second-largest in Europe. It is listed on the London Stock Exchange and in the FTSE 100 Index.

British Airways is the first passenger airline to have generated more than US\$1 billion on a single air route in a year (from 1 April 2017, to 31 March 2018, on the New York-JFK – London-Heathrow route).



TASK OVERVIEW

British Airways (BA) is the flag carrier airline of the United Kingdom (UK). Every day, thousands of BA flights arrive to and depart from the UK, carrying customers across the world. Whether it's for holidays, work or any other reason, the end-to-end process of scheduling, planning, boarding, fuelling, transporting, landing, and continuously running flights on time, efficiently and with top-class customer service is a huge task with many highly important responsibilities.

As a data scientist at BA, it will be your job to apply your analytical skills to influence real life multi-million-pound decisions from day one, making a tangible impact on the business as your recommendations, tools and models drive key business decisions, reduce costs and increase revenue.

Customers who book a flight with BA will experience many interaction points with the BA brand. Understanding a customer's feelings, needs, and feedback is crucial for any business, including BA.

This first task is focused on scraping and collecting customer feedback and reviewing data from a third-party source and analysing this data to present any insights you may uncover.

TASK OVERVIEW

WEB SCRAPING

The first thing to do will be to scrape review data from the web. For this, you should use a website called Skytrax.

The team leader wants you to focus on reviews specifically about the airline itself. You should collect as much data as you can in order to improve the output of your analysis. To get started with the data collection, you can use the “Jupyter Notebook” in the Resources section below to run some Python code that will help to collect some data.

ANALYSE DATA

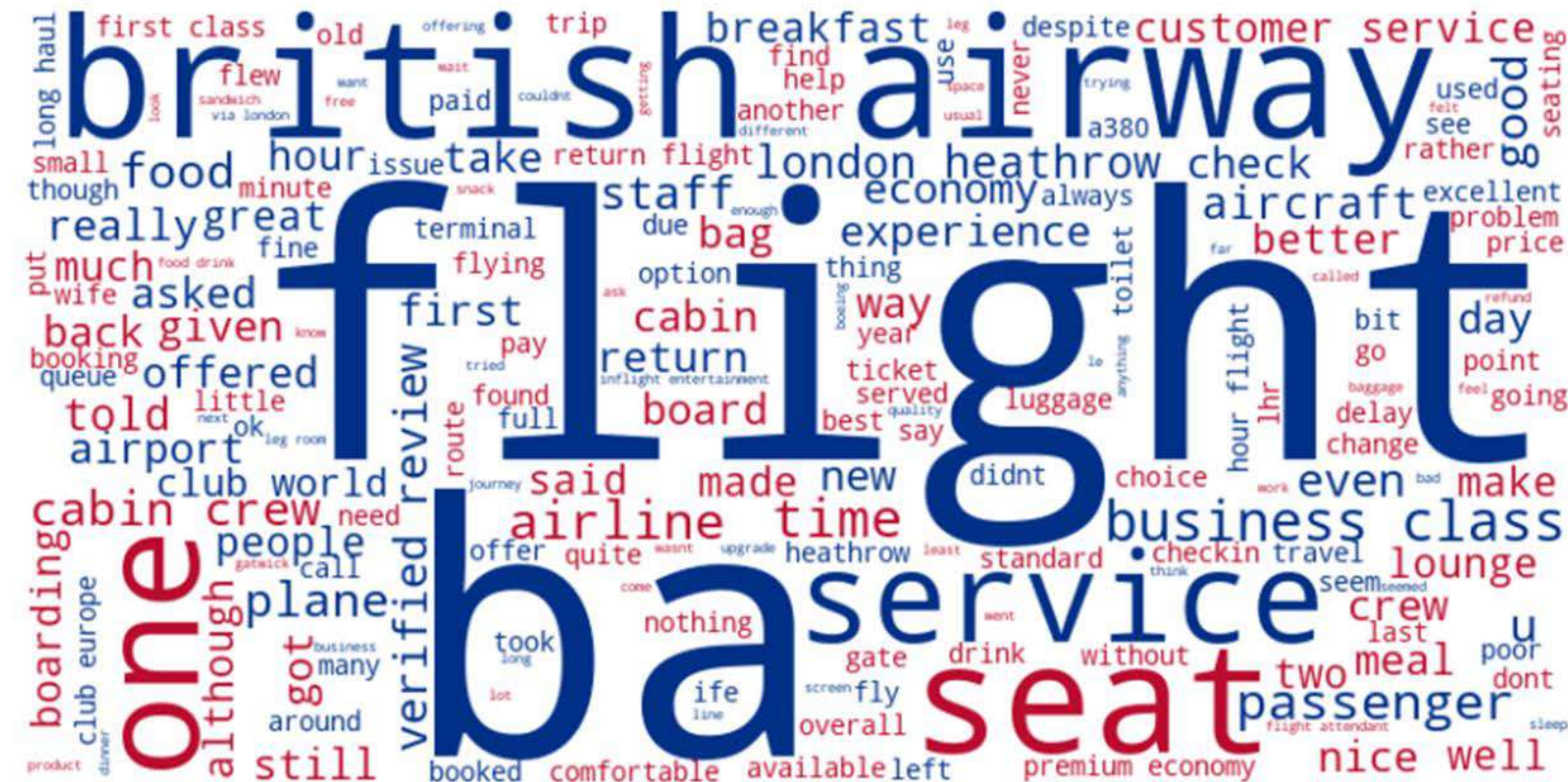
The data will be very messy and contain purely text. You will need to perform data cleaning in order to prepare the data for analysis. When the data is clean, you should perform your own analysis to uncover some insights. As a starting point, you could look at topic modelling, sentiment analysis or wordclouds to provide some insight into the content of the reviews. It is recommended to complete this task using Python, however, you can use any tool that you wish.

PRESENT INSIGHT

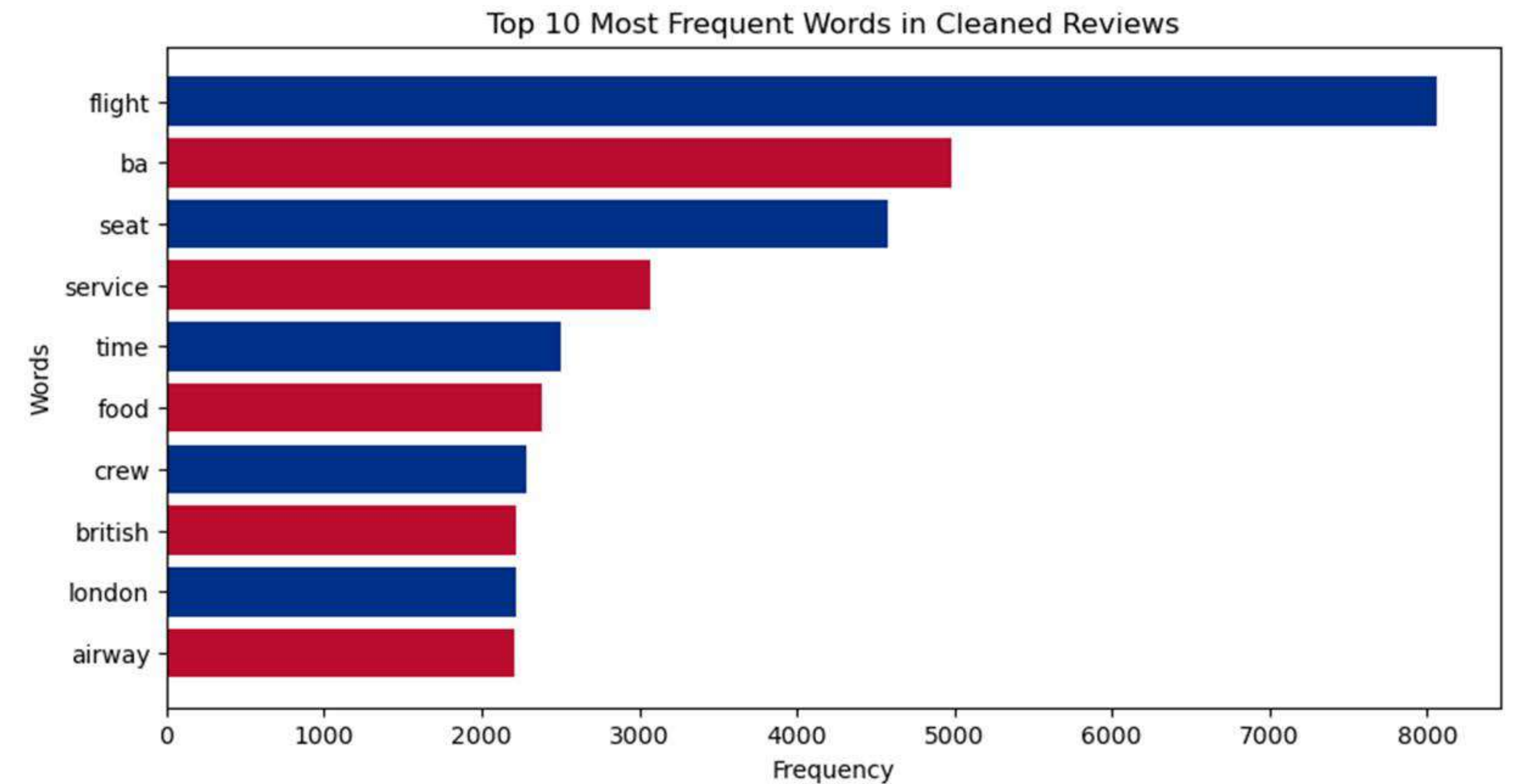
Your manager would like you to summarise your findings within a single PowerPoint slide, so that they can present the results at the next board meeting. You should create visualisations and metrics to include within this slide, as well as clear and concise explanations in order to quickly provide the key points from your analysis. Use the “PowerPoint Template” provided to complete the slide.

INSIGHTS

The bar chart and word cloud both highlight "flight," "ba," "seat," and "service" as the most frequently mentioned words in customer reviews. This indicates that flights, the airline itself, British Airways, seating, and service quality are primary concerns for customers. Additionally, terms like "crew," "food," and "time" are also significant, suggesting these areas are also important in customer feedback. These insights can guide improvements and focus areas to enhance customer satisfaction.



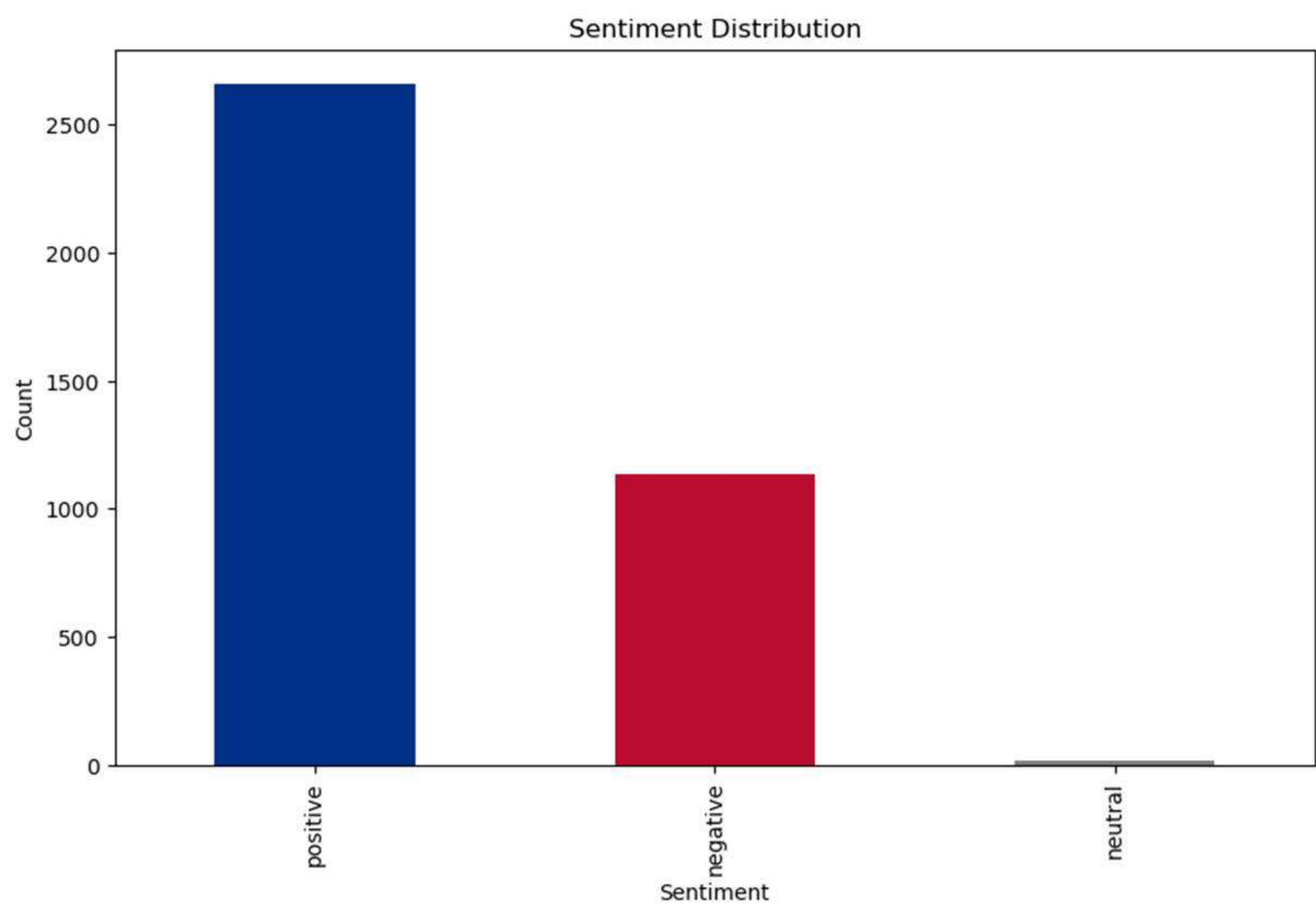
Word cloud showing
The most frequent words in the review



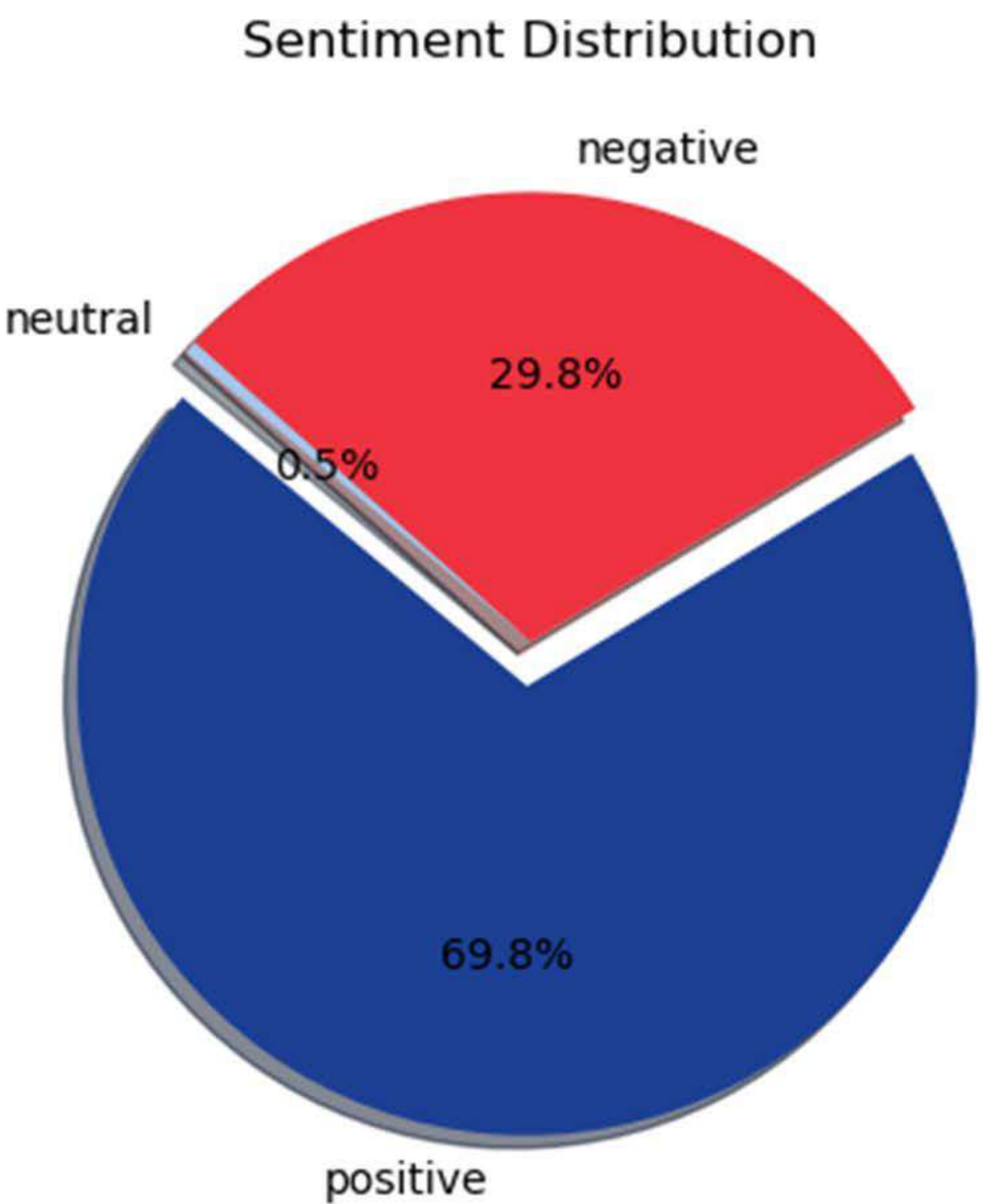
Bar Chart showing the top 10 words used in the review

INSIGHTS

The sentiment analysis shows that 69.8% of the reviews are positive, indicating high customer satisfaction. Negative reviews make up 29.8%, highlighting areas for improvement. Neutral reviews are minimal at 0.5%, suggesting most feedback is strongly opinionated. The bar chart confirms these proportions, with over 2,500 positive reviews and around 1,000 negative ones. This distribution suggests a generally positive sentiment with significant areas needing attention.



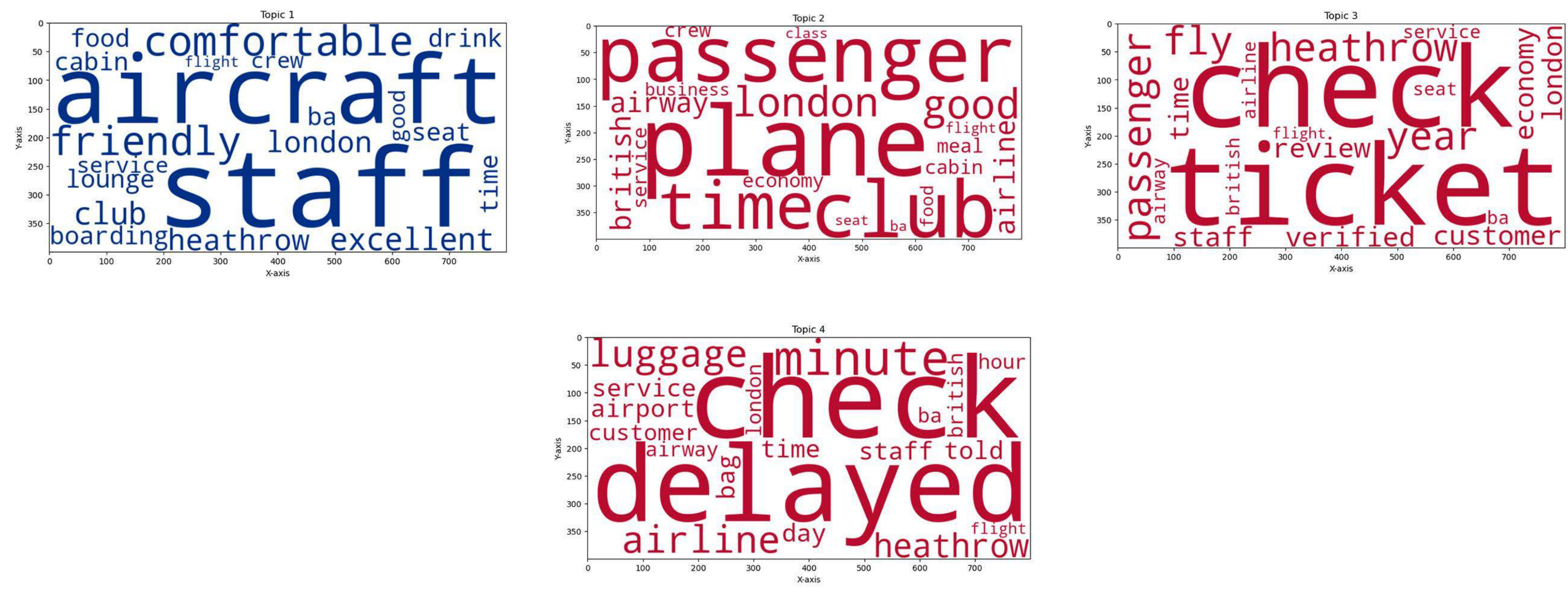
The bar chart shows
The sentiment distribution



Pie Chart showing
the % sentiment distribution

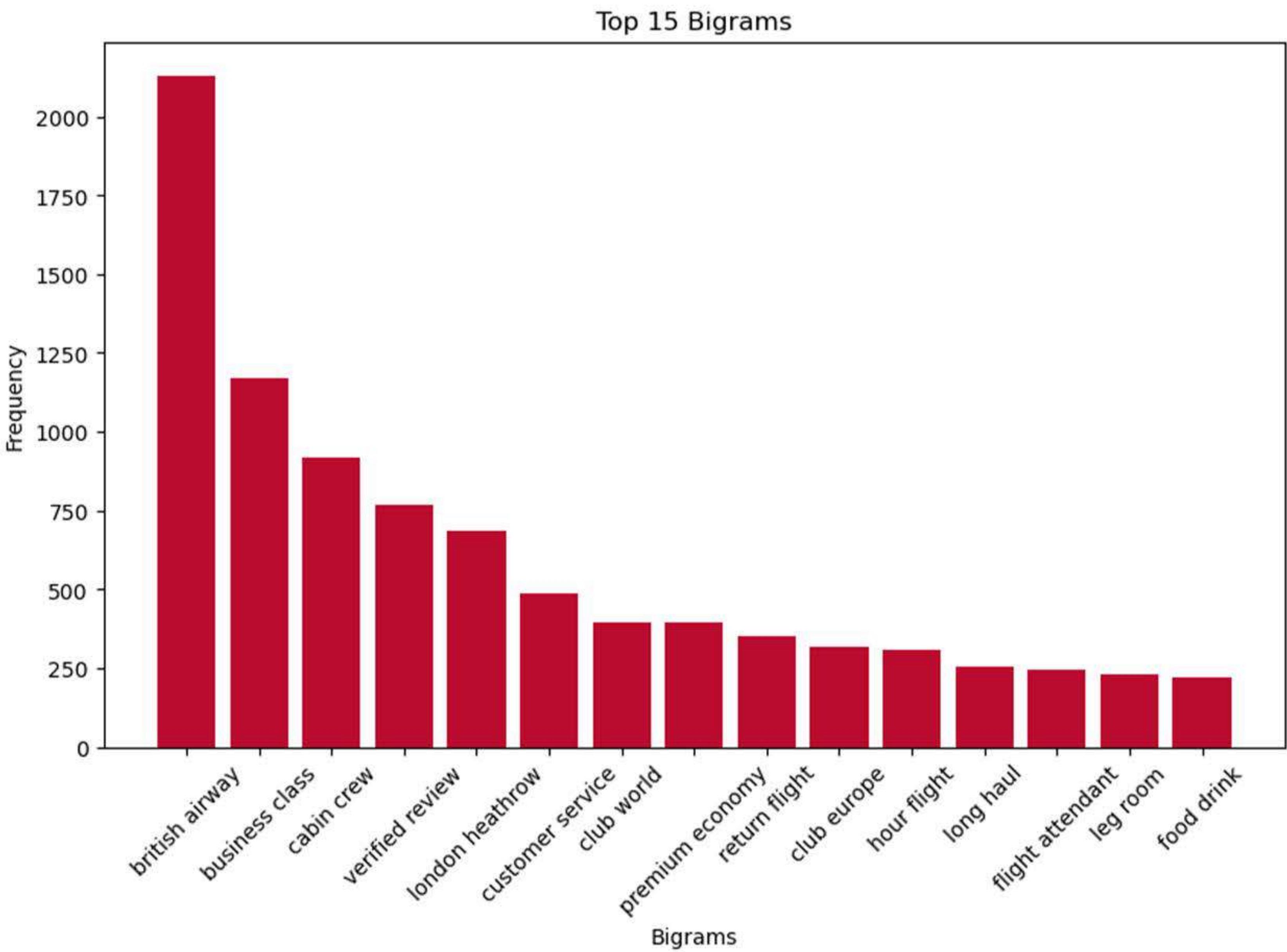
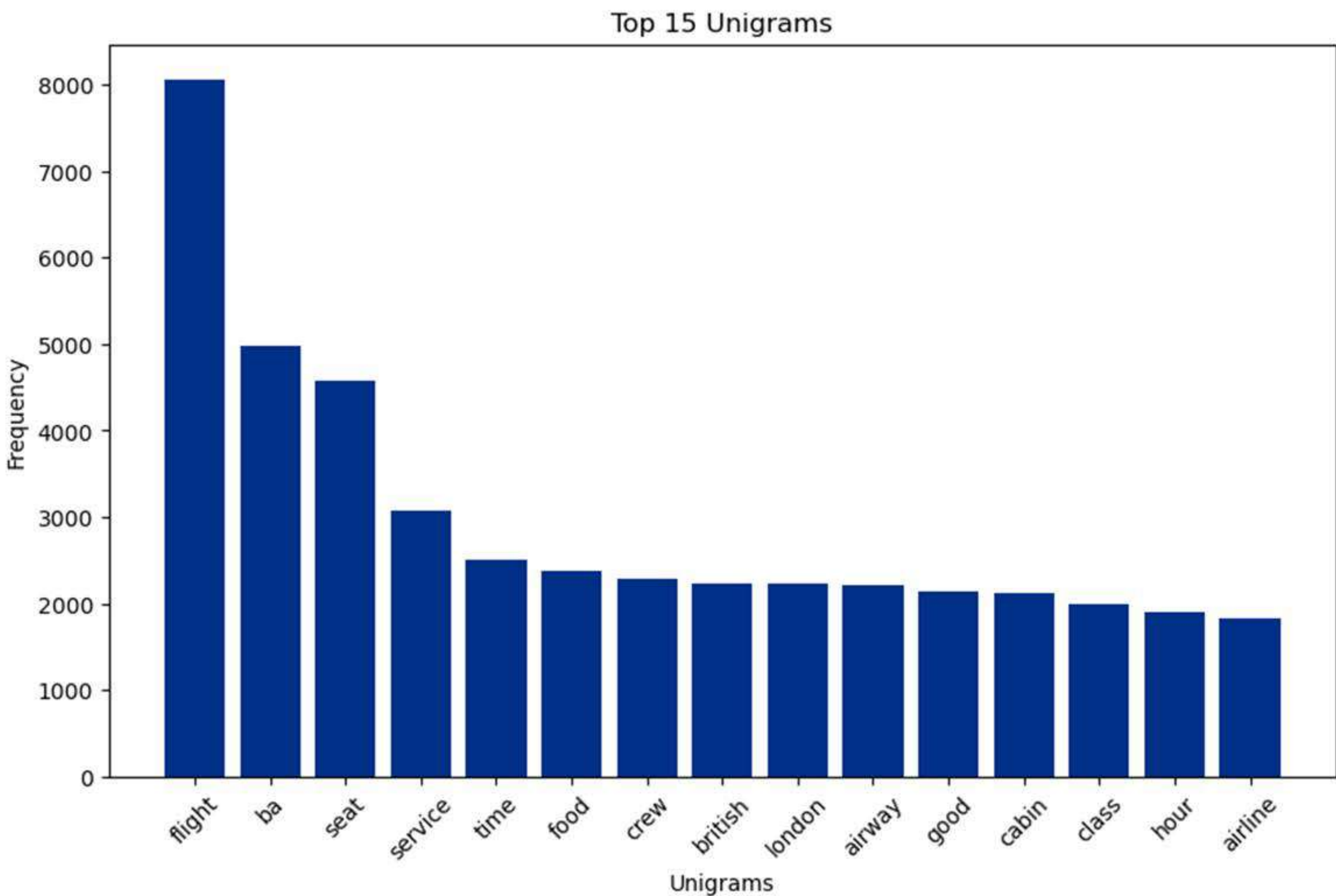
INSIGHTS

The visualizations highlight key themes from customer reviews. Positive feedback emphasizes the comfort of the aircraft and the friendliness and excellence of the staff as shown in Figure 1. However, significant negative feedback centers on delays and luggage issues, which are major pain points for passengers, as seen in Figure 4. Additionally, the check-in process and ticketing, especially at specific locations like Heathrow, are common topics of discussion in Figure 3. There is also mention of time-related issues and the experience of passengers in loyalty programs or clubs, as illustrated in Figure 2. Overall, while the flight experience and staff receive commendations, operational aspects such as delays, luggage handling, and check-in procedures present opportunities for improvement to enhance overall customer satisfaction.



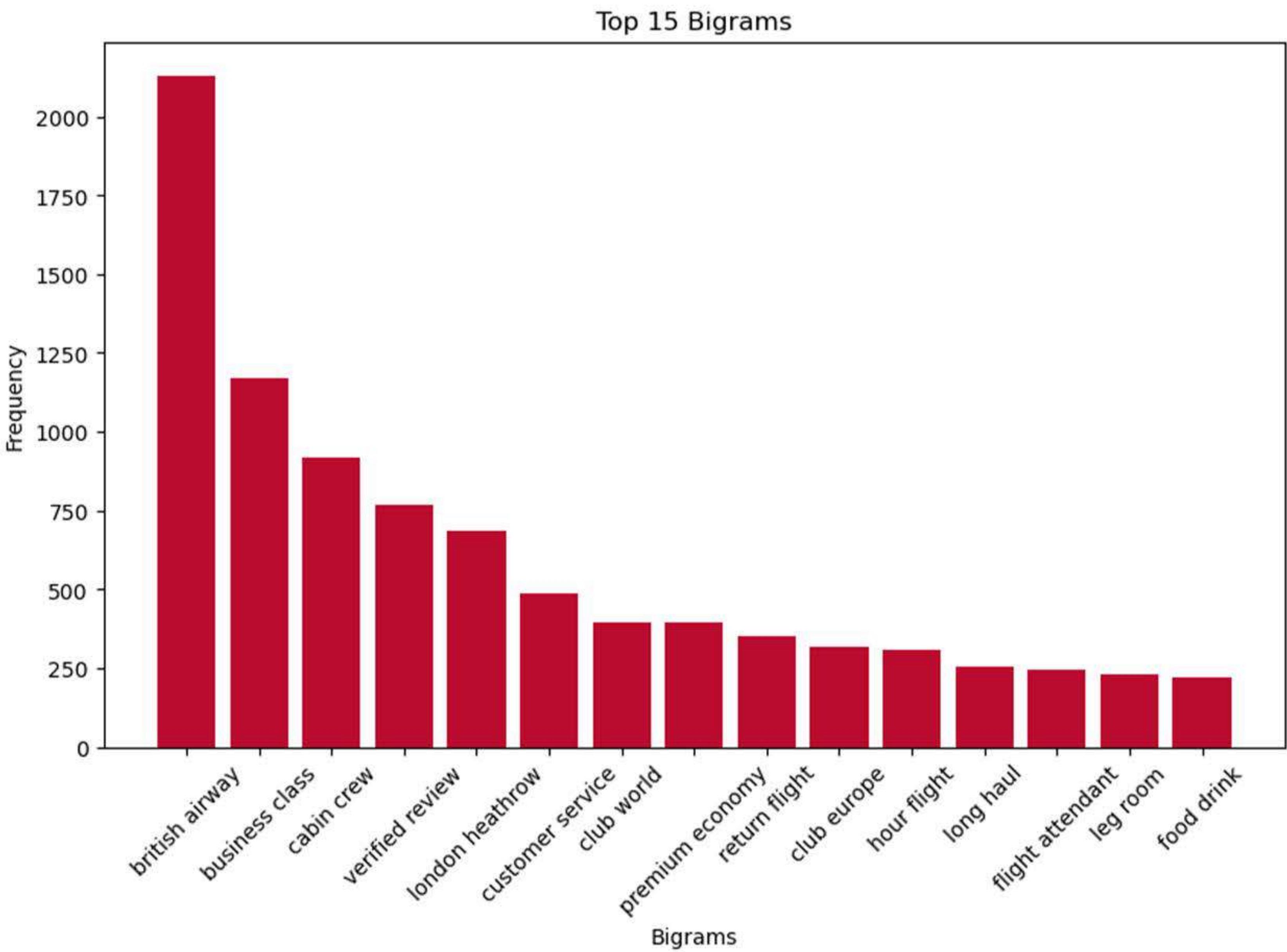
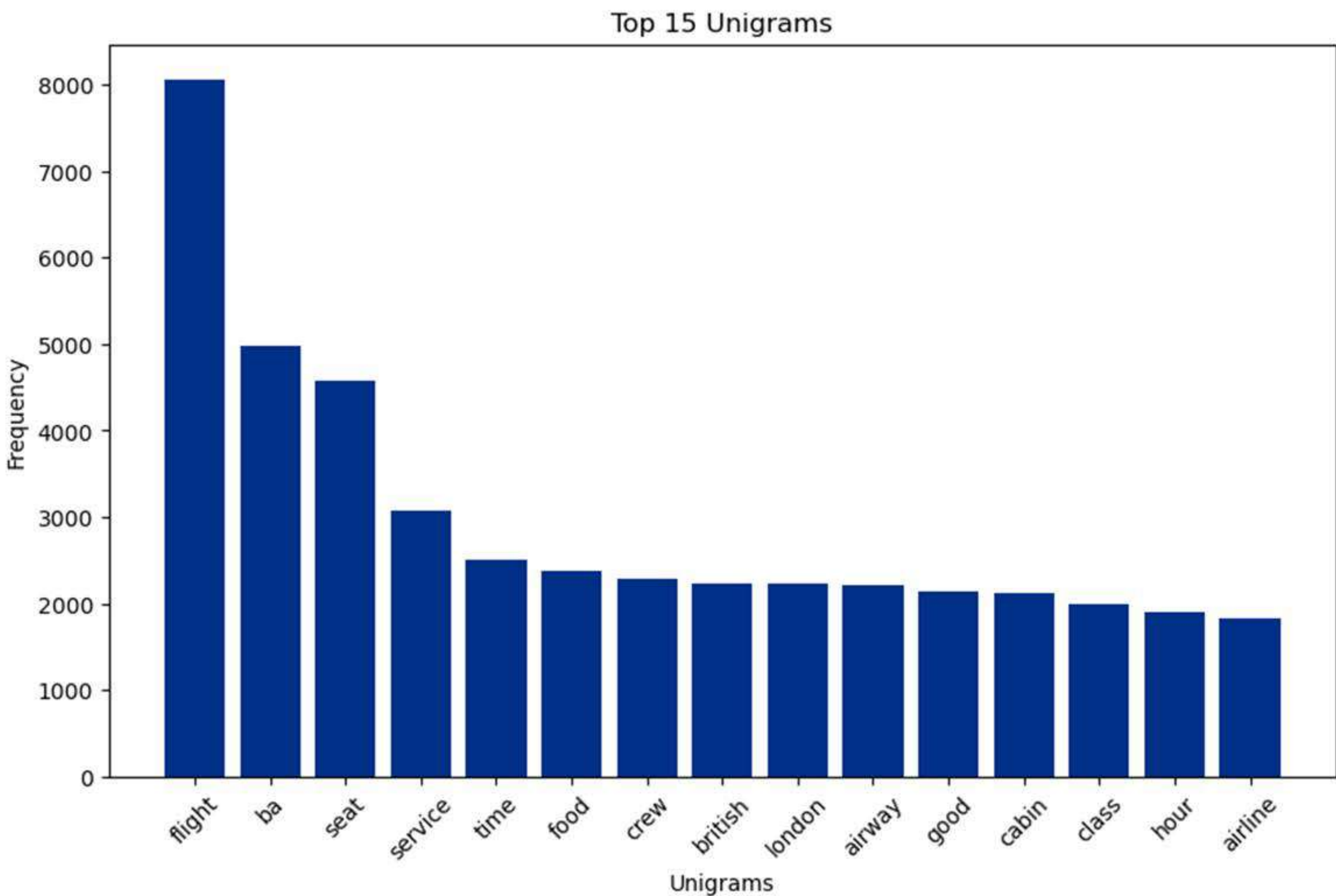
INSIGHTS

The bar chart showcases the top 15 bigrams found in the reviews. The most frequent bigram is "british airway," indicating the focus on the airline itself. Other common bigrams include "business class," "cabin crew" highlighting the importance of specific service classes and staff interactions. Terms like "london heathrow" and "customer service" also appear frequently, suggesting significant feedback related to specific locations and customer service experiences. Additional notable bigrams include "premium economy," "return flight," and "club world," reflecting specific travel classes and types of flights. This data underscores the key areas of interest and concern for customers, providing insights for targeted improvements.



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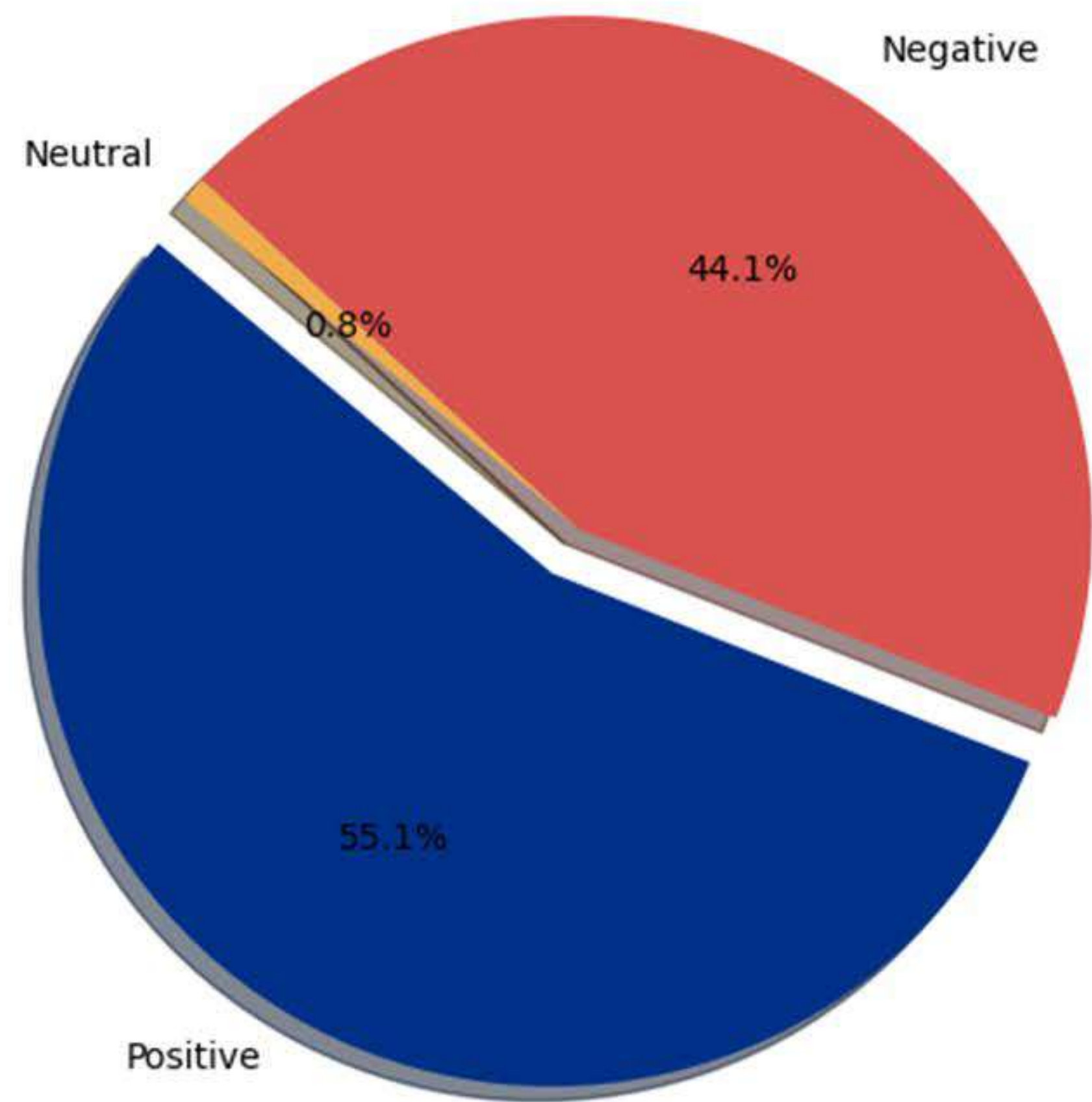
INSIGHTS

The sentiment distribution pie chart for "customer service" mentions reveals that 55.1% of reviews are positive, indicating a majority of favorable feedback. However, a significant portion, 44.1%, is negative, highlighting areas for improvement. Neutral mentions are minimal at 0.8%.

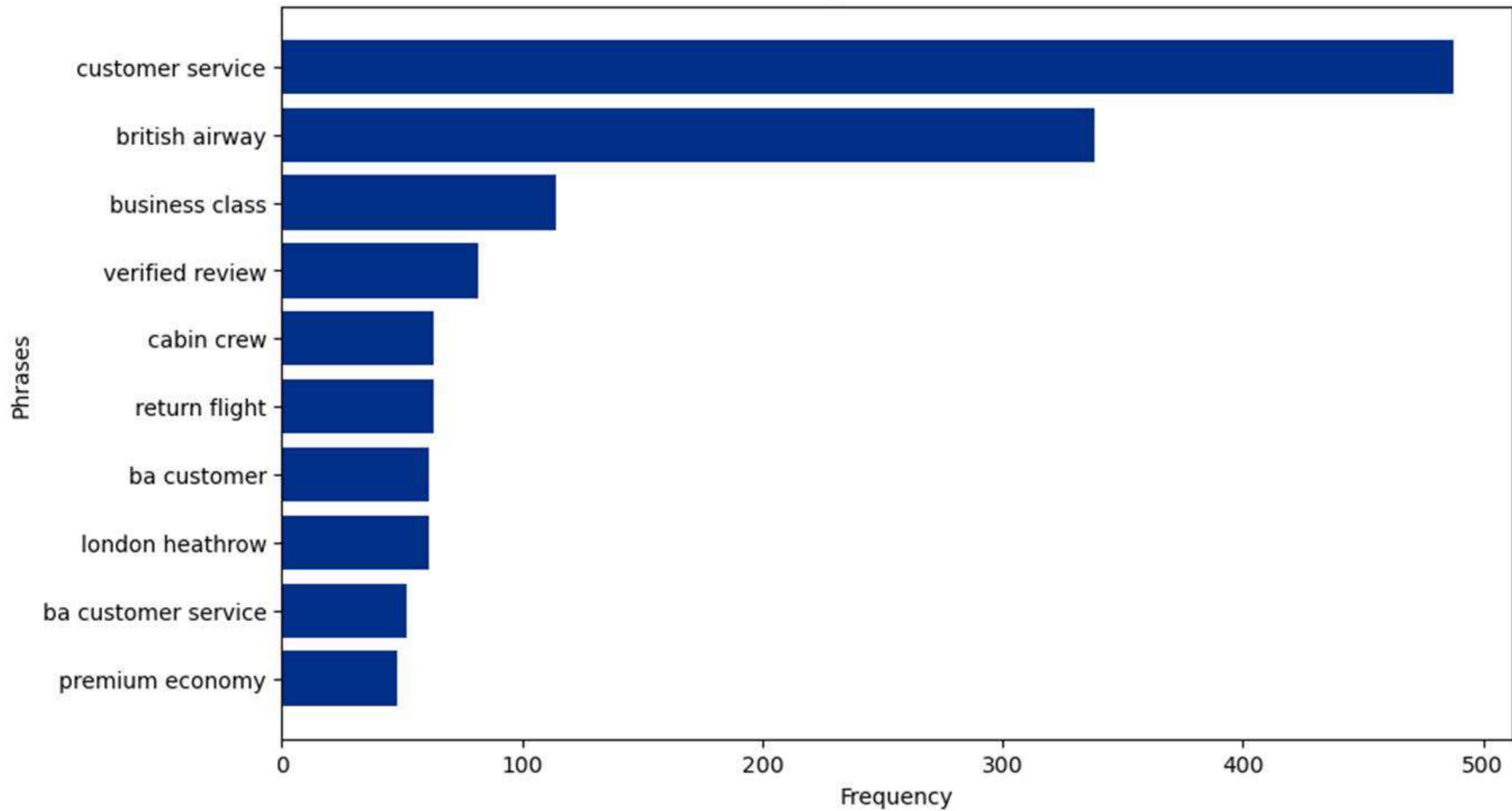
The bar chart of common phrases around "customer service" shows that "British Airways" and "business class" are frequently mentioned alongside "customer service," suggesting that these elements are closely related in customer discussions. Other notable phrases include "cabin crew," "return flight," and "London Heathrow," reflecting specific contexts where customer service is evaluated.

These insights indicate that while customer service is generally well-received, there are notable issues that need addressing, particularly in interactions involving British Airways and specific service classes.

Sentiment Distribution for "Customer Service" Mentions

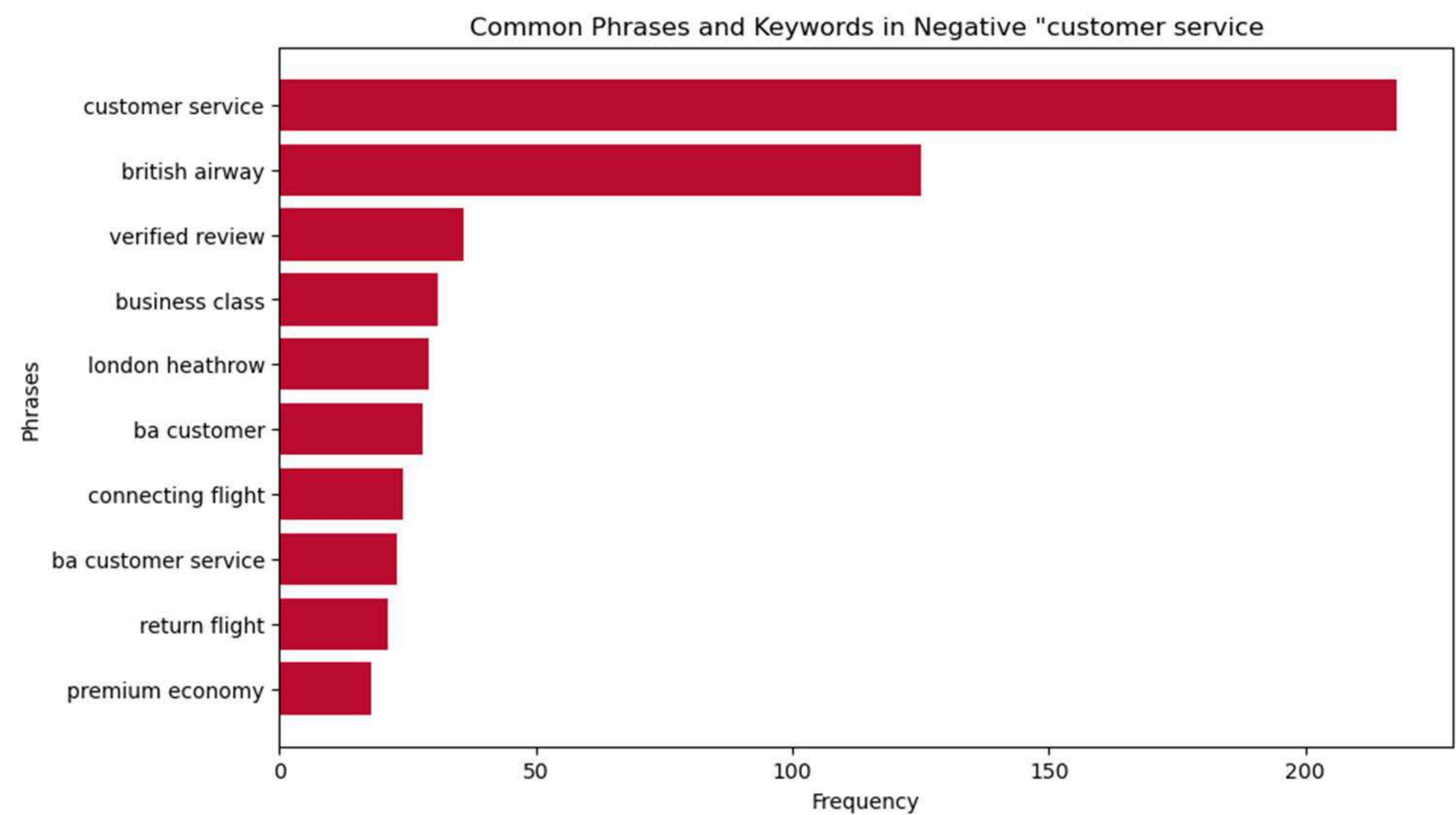


Common Phrases and Keywords around "customer service"



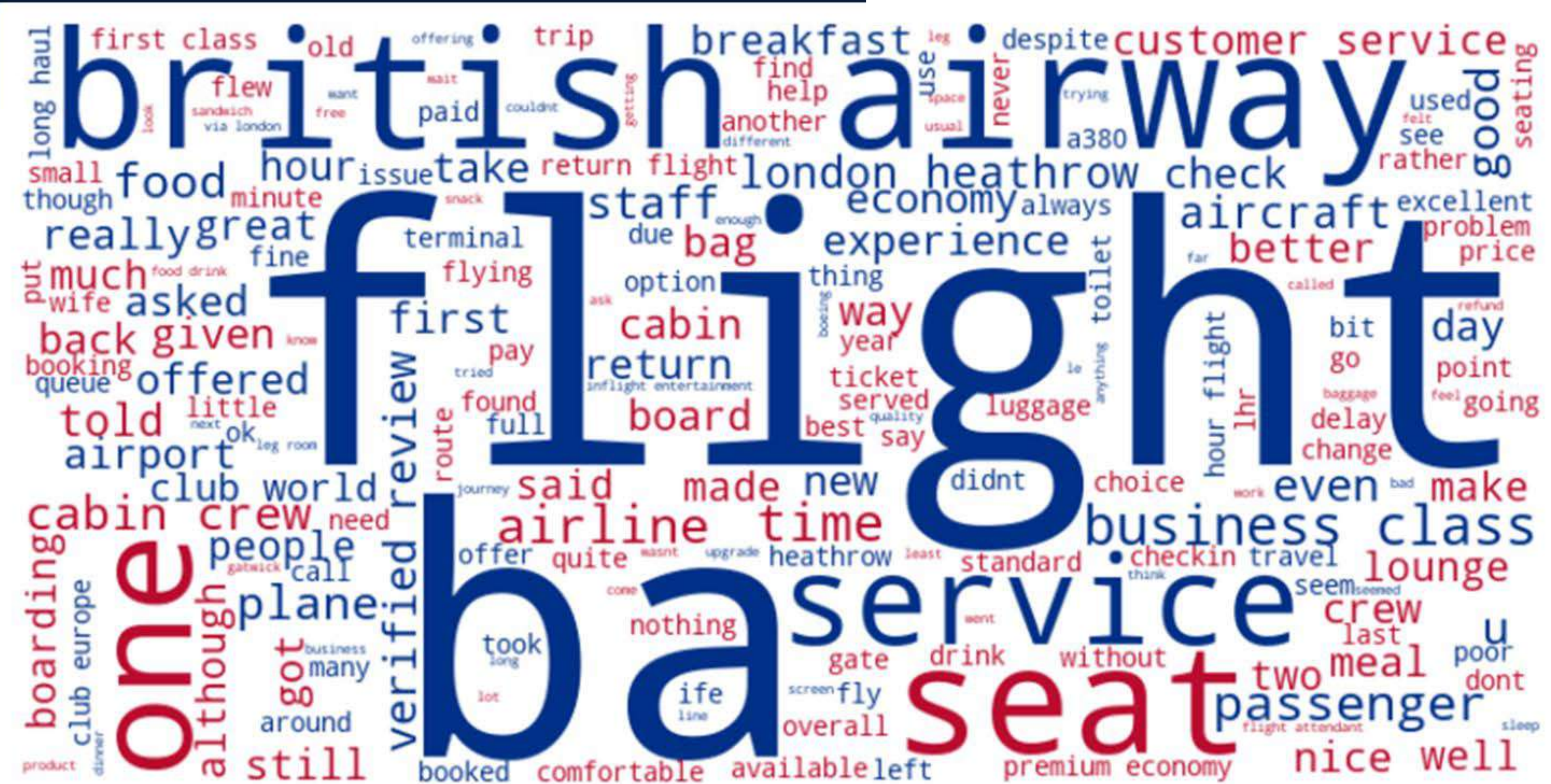
INSIGHTS

The bar chart of common phrases and keywords in negative "customer service" mentions reveals key areas of dissatisfaction. The most frequent terms are "British Airways," "business class," and "London Heathrow," indicating significant negative feedback in these contexts. Other notable phrases include "verified review," "connecting flight," and "return flight," highlighting specific issues customers face during their travel experience. These insights suggest that improvements in customer service related to British Airways, business class, and key touchpoints like connecting flights and return flights could significantly enhance overall customer satisfaction.



CONCLUSION

The analysis of customer reviews provides a comprehensive understanding of the key themes and sentiment surrounding the airline experience. Overall, the majority of feedback is positive, with significant commendations for the comfort of aircraft and the friendliness and excellence of staff. However, notable negative feedback centers on operational issues such as delays, luggage handling, and the check-in process, particularly at specific locations like London Heathrow. The sentiment analysis for "customer service" highlights that while many customers have positive experiences, there is substantial negative feedback, particularly in contexts involving British Airways, business class, and specific flight segments.



RECOMMENDATION

Enhance Customer Service: Focus on improving customer service, especially in areas highlighted by negative feedback such as business class, connecting flights, and return flights. Training staff to handle these situations more effectively can improve overall satisfaction.

Promote Positive Aspects: Highlight the positive feedback related to the comfort of aircraft and the friendliness of staff in marketing materials to reinforce these strengths.

Improve Operational Efficiency: Address the primary pain points related to delays and luggage handling. Implement more efficient processes and better communication strategies to manage delays and baggage issues.

Streamline Check-in Procedures: Simplify and expedite the check-in process, particularly at busy airports like London Heathrow. Use technology to reduce wait times and enhance the customer experience.

Monitor and Act on Feedback: Continuously monitor customer reviews to identify emerging issues and areas for improvement. Use this feedback to implement changes and improve the overall travel experience.



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**THANK
YOU**

BRITISH AIRWAYS 

FOR THE PYTHON CODE CHECK:

<https://github.com/mazecracks/code/tree/main/BRITISH%20AIRWAYS>