Analyzing Customer Feedback of Disneyland Theme Parks

Executive Summary

The objective of this project is to analyze customer feedback of Disneyland theme parks and identify the topics that are most important to customers and determine their overall sentiment towards different branches. The insights from this analysis could be used to improve Disneyland's attractions, services, and overall experience, identify areas for marketing and advertising, and ultimately improve customer satisfaction and loyalty. We hope that the information obtained from this project will help Disneyland to better understand their customers' needs and concerns, improve their services, and tailor their marketing strategies to increase customer satisfaction and loyalty. By identifying the main topics and concerns, Disneyland can prioritize their efforts to improve specific areas of the parks. By comparing the sentiment tendencies towards different branches, Disneyland can identify areas that need more attention or investment. Ultimately, this analysis will help Disneyland to provide a better customer experience and increase their profitability and brand loyalty.

Project Objectives

The main objective of this project is to analyze customers' feedback from Disneyland theme parks and identify the most important topics to customers, as well as determine their sentiment towards different branches in the USA, Tokyo, and Paris. The following are the insights we hope to gain from this analysis:

Identify the attractions and services that consumers enjoy the most: By analyzing customer feedback, we aim to identify the specific attractions and services that customers enjoyed the most during their visit to Disneyland. This will help the company to improve these services further, ultimately improving customer satisfaction and loyalty.

Determine the topics that are most important for marketing and advertising: By identifying the topics that are most important to customers, we can help Disneyland to identify areas for marketing and advertising. This will help the company to create more effective marketing campaigns and promotional materials, ultimately attracting more customers and improving the overall customer experience.

By achieving these objectives, Disneyland can use the insights gained from this analysis to improve the attractions, services, and overall experience at its theme parks. The company can also identify areas for marketing and advertising, ultimately improving customer satisfaction and loyalty. By implementing these improvements, Disneyland can attract more customers and improve its overall reputation in the industry.

Data Description

Our database was selected from the Kaggle ([Disneyland Reviews | Kaggle](#)). The dataset includes 42,000 reviews of 3 Disneyland branches - Paris, California and Hong Kong, posted by visitors on Trip Advisor.

Column Description:

- Review_ID: unique id given to each review

- Rating: ranging from 1 (unsatisfied) to 5 (satisfied)

- Year_Month: when the reviewer visited the theme park

- Reviewer_Location: country of origin of visitor

- Review_Text: comments made by visitor

- Disneyland_Branch: location of Disneyland Park

Methodology

This project will use two text mining methods. The first method will be Latent Dirichlet Allocation (LDA) topic modeling to identify the main topics and concerns mentioned in the reviews for each of the three Disneyland parks. The second method will be sentiment analysis to determine the sentiment of each review and compare the sentiment tendencies towards different branches. And in the sentiment analysis we also compare the characteristics of customer reviews in different periods.

The following example is based on Disney in the California area:

1. Latent Dirichlet Allocation (LDA) topic modeling

The first step of the analysis plan will be to preprocess the text data by removing stop words, stemming or lemmatizing the words, and converting the text into numerical features using one of the three methods: Bag of Words, TF-IDF, or N-Grams. Next, the LDA topic modeling method will be used to identify the main topics and concerns mentioned in the reviews for each of the three Disneyland parks.

We can summarize each topic:

Topic 0: This topic is related to visiting Disneyland, including topics such as rides, wait times, crowds, and food. It also mentions the FastPass system and tips for navigating the park.

Topic 1: This topic is about comparisons between different Disney parks, such as Disney World, Disneyland, and Disneyworld. It also mentions the original Disneyland and the magic of Disney.

Topic 2: This topic is related to seasonal events at Disneyland, including Christmas and Halloween. It mentions the decorations, parades, and firework shows that occur during these holidays.

Topic 3: This topic is focused on specific rides at Disneyland, including Space Mountain, Pirates of the Caribbean, and Haunted Mansion. It also mentions newer rides like Nemo and the various lands within the park.

Topic 4: This topic is about people's experiences and emotions related to visiting Disneyland, including their love for the park, the fun they have with family and children, and the magical atmosphere of the park.

2. Sentiment analysis

The first step is to try to use sentiment analysis in the reviews. And we can get figure1: the Distribution of Sentiment Compound Scores: California. To compare Disney reviews by visitors from different periods, we divided the data into early reviews and late reviews. We normalized two-time corpus, then we got the topics of two time(figure2). We chose to get four topics. So, we can find some differences between reviews before and after 2015.

Based on the top words in each topic, it appears that the topics for reviews before 2015 are:

Topic 0: Disneyland Mountain rides, including Pirates of the Caribbean, Space Mountain, and the Matterhorn, as well as holiday-themed attractions.

Topic 1: Crowds and wait times at Disneyland, especially during busy times like holidays and weekends.

Topic 2: Overall enjoyment of Disneyland as a place to visit with family, including rides and attractions for children.

Topic 3: The experience of visiting Disneyland, including waiting in lines, food options, and crowd control.

The topics for reviews after 2015 appear to be:

Topic 0: Overall enjoyment of Disneyland as a place to visit with family, including rides and attractions for children.

Topic 1: Special events and entertainment at Disneyland, such as parades, fireworks, and seasonal celebrations.

Topic 2: Comparisons between Disneyland and other Disney parks, particularly Disney World in Florida.

Topic 3: The experience of visiting Disneyland, including waiting in lines, food options, and crowd control.

After analyzing Disneyland in California, we analyzed Disneyland in Paris and Hong Kong in the same way. The results of the analysis are shown in figure3 and figure4 respectively.

Results and Their Discussion

Overall, we can find that based on the topic modeling and sentiment analysis performed on the reviews of Disneyland California, Disneyland Paris, and Disneyland Hong Kong, we can identify some differences among these three branches.

For example, the topics discussed in reviews for Disneyland California tended to focus on the different rides and attractions at the park, with a mix of positive and negative sentiments. The reviews for Disneyland Paris also had a focus on specific rides and attractions, but also included comparisons to other Disney parks and criticisms of the behavior of other tourists. The reviews for Hong Kong Disneyland had a similar focus on specific rides and attractions, but also included practical aspects of visiting the park, comparisons to other Disney parks, and criticisms of the behavior of mainland Chinese tourists.

Additionally, the sentiment analysis showed reviews for Disneyland California tended to be more positive overall, while reviews for Hong Kong Disneyland had a more negative sentiment overall.

Overall, while there are similarities in the topics discussed across the three branches of Disneyland, there are also some differences in the specific focus and sentiment of the reviews.

Conclusion

Although we were able to analyze the data to get the results we wanted, we found some drawbacks in our work. Firstly, the information in this database is up to 2021, so we do not have the latest data, which may lead to less accurate final recommendations, and secondly, our analysis method is too single. Finally, we did not take some factors into account when screening the data, which may lead to some bias in the results. These are the areas we need to improve.

By analyzing the data, we were able to conclude how to improve customer experience and brand loyalty:

Improving practical aspects: Based on the reviews for Hong Kong Disneyland, it may be beneficial for Disneyland to focus on improving practical aspects of visiting the park, such as providing clear signage and information in multiple languages, improving transportation options, and ensuring that facilities are clean and well-maintained.

Enhancing unique experiences: Disneyland could focus on enhancing the unique experiences offered at each park to differentiate itself from other Disney parks and increase brand loyalty. For example, Disneyland California could concentrate on promoting its classic rides and attractions, while Disneyland Paris could focus on their European-inspired architecture and cuisine.

Addressing the behavior of other tourists: Based on the reviews for Disneyland Paris and Hong Kong Disneyland, it may be beneficial for Disneyland to address the behavior of other tourists that is negatively impacting the experience of other visitors. This could include implementing policies to discourage line-cutting or other disruptive behavior.

Engaging with customers: Disneyland could engage with customers through social media and other channels to gather feedback and address concerns in real time. This could help to improve customer satisfaction and increase brand loyalty.

Overall, by addressing the specific issues raised in the reviews and enhancing the unique experiences offered at each park, Disneyland could improve customer experience, increase profitability, and strengthen brand loyalty.

Appendix

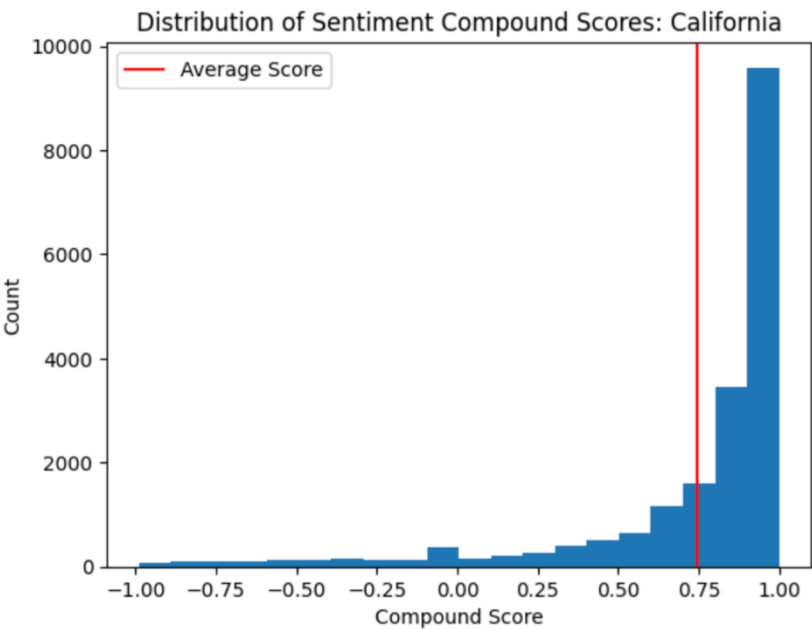**Figure 1: Distribution of Sentiment Compound Scores: California**

Distribution of Sentiment Compound Scores: California

Figure 2: Distribution of Compound Scores for Early and Late Reviews: California

Distribution of Compound Scores for Early and Late Reviews

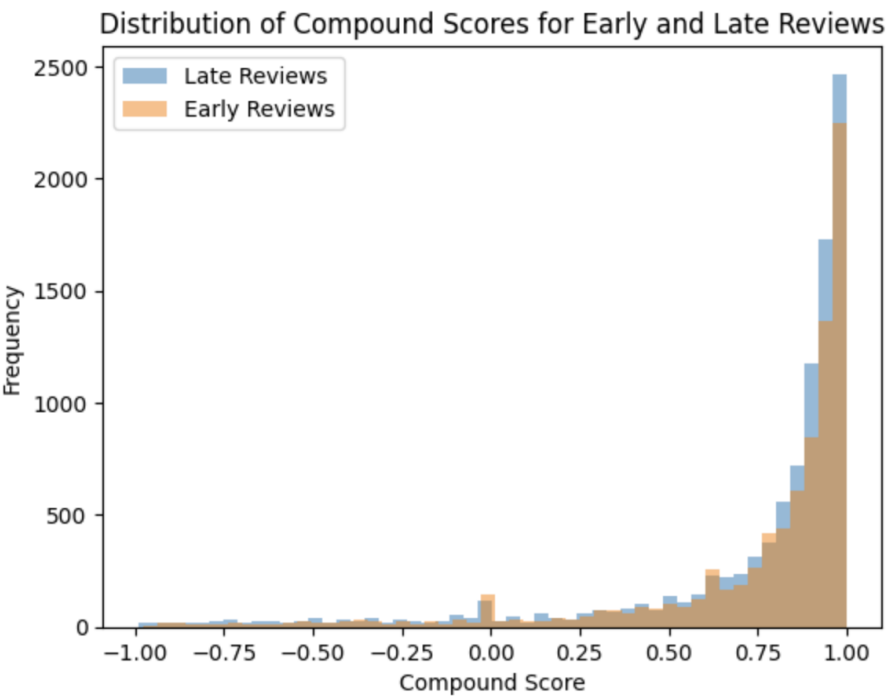**Figure 3: Distribution of Compound Scores for Early and Late Reviews: Paris**

Distribution of Compound Scores for Early and Late Reviews
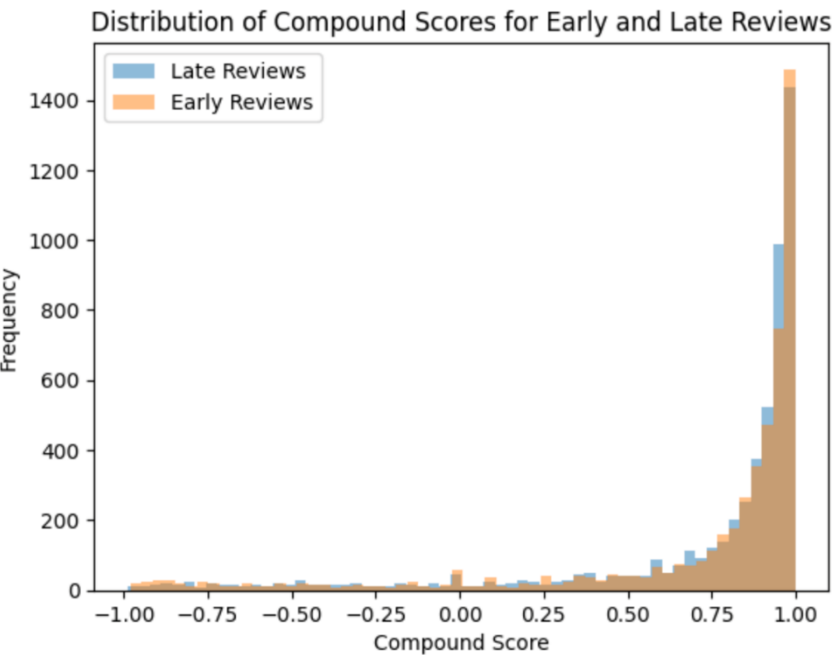
Figure 4: Distribution of Compound Scores for Early and Late Reviews: Hongkong