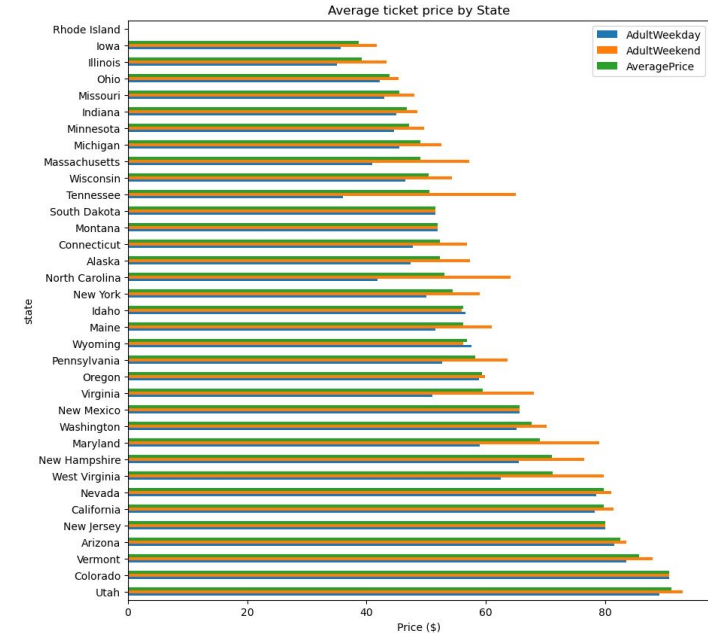


Big Mountain Resort Price Analysis

Syed Hussain Ather

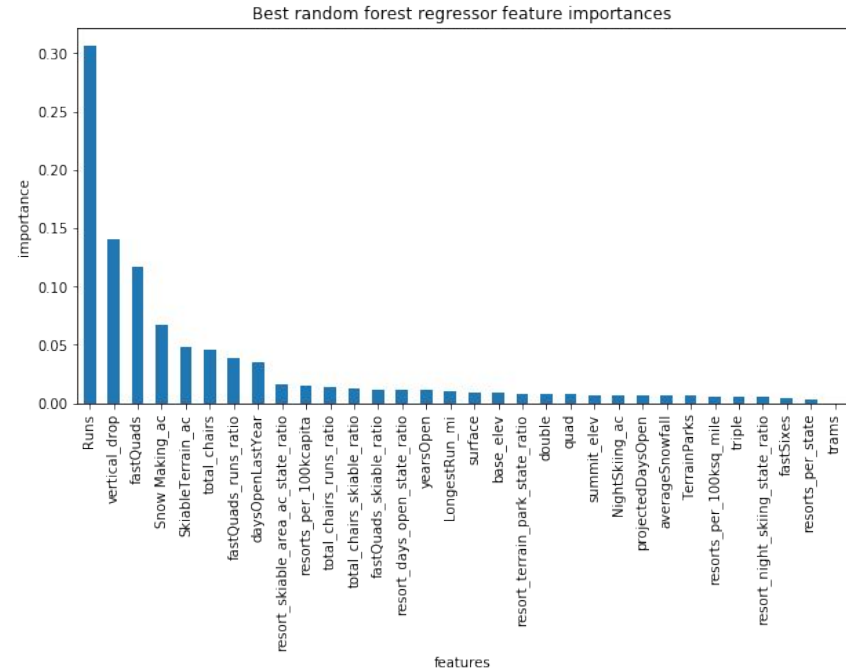
Problem identification - Addressing Big Mountain Resort's Pricing Strategy

- Big Mountain Resort, a popular ski destination in Whitefish, Montana, is facing a challenge with its pricing strategy. The resort recently installed a new chair lift, increasing operating costs by \$1.54 million for the season.
- This has prompted a reevaluation of the pricing strategy to ensure it accurately reflects the value of the resort's facilities and services in the competitive ski resort market.
- The objective of this analysis is to develop a data-driven pricing model that aligns with industry benchmarks and customer expectations.



Problem identification - Analyzing Market Dynamics and Competitor Pricing

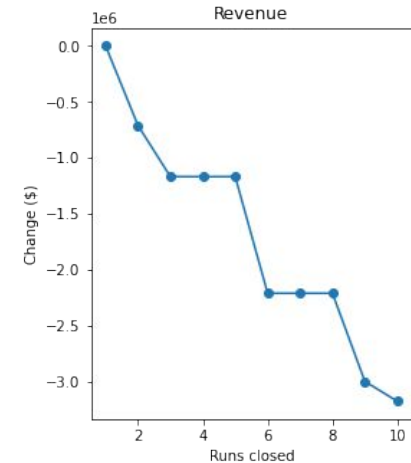
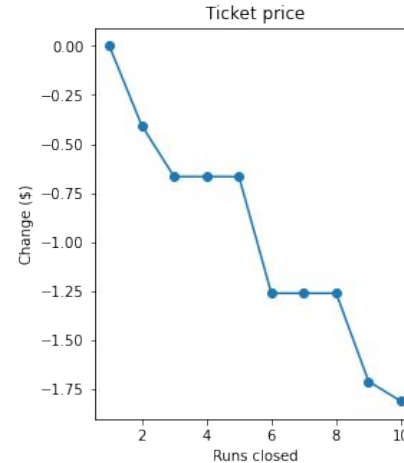
- Market analysis reveals the importance of understanding competitor pricing strategies and market dynamics to inform pricing decisions.
- The dataset was cleaned and preprocessed to address missing values, outliers, and inconsistencies. This involved removing irrelevant columns, handling missing data, and ensuring data quality.
- After preprocessing, the dataset was ready for exploratory data analysis (EDA).



Recommendations and Key Findings - Pricing

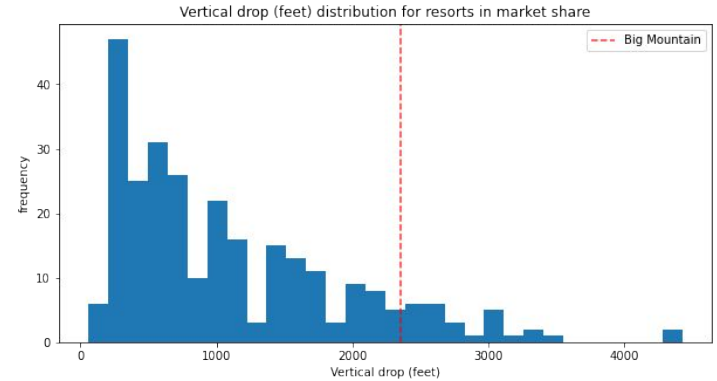
Recommendations and Key Insights

- Based on the analysis, it is recommended to increase ticket prices by at least \$10 to better reflect the value of Big Mountain Resort's offerings.
- EDA revealed important trends, patterns, and correlations in the data. Key insights include the relationship between resort features and ticket prices, as well as comparisons with competitor pricing strategies. Charts, plots, and maps were utilized to visualize these insights and provide a clear understanding of the data.
- Key findings include opportunities for revenue optimization through strategic run management and leveraging ancillary revenue streams.



Modeling Results and Analysis - Exploring Resort Features and Pricing Trends

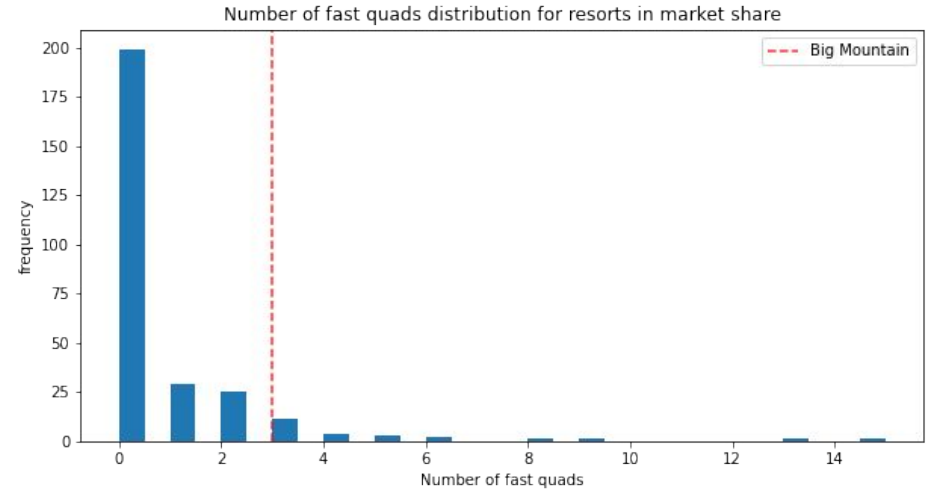
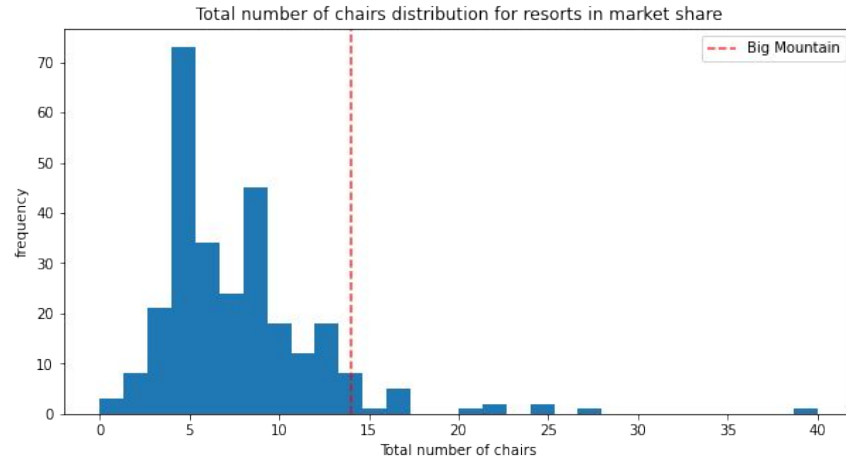
- The modeling approach involved analyzing resort features and their impact on ticket prices using machine learning techniques.
- Insights from Random Forest Regression and Principal Component Analysis reveal significant correlations between resort features and pricing trends.
- Before building the model, preprocessing steps were taken to scale and transform the features. Feature engineering techniques, such as creating new features or encoding categorical variables, were applied to enhance model performance.



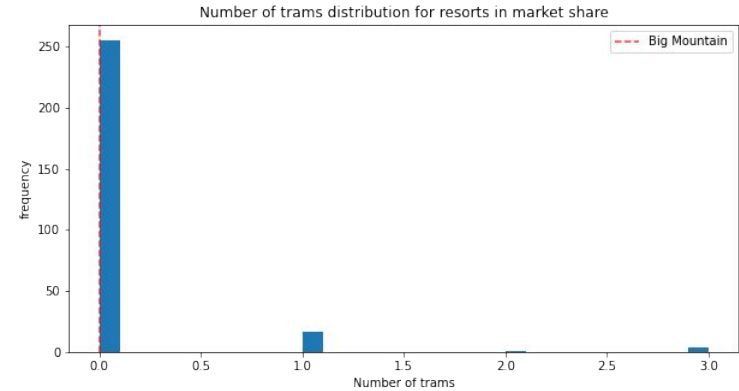
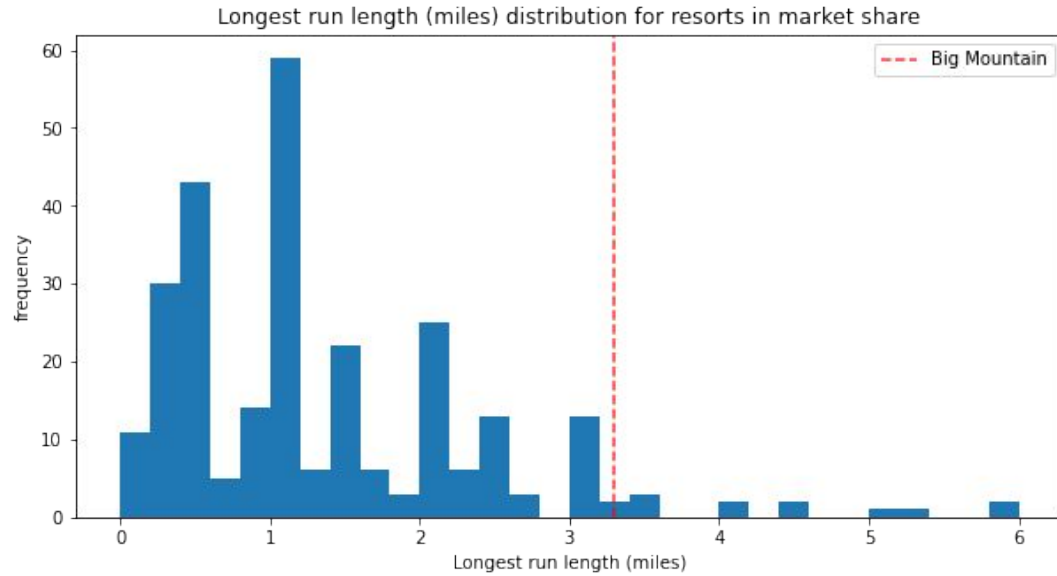
Modeling Results and Analysis - Exploring Resort Features and Pricing Trends

- Machine learning algorithms, including Random Forest Regression and Principal Component Analysis (PCA), were used to build the pricing model. The evaluation metric chosen was Mean Absolute Error (MAE), which measures the average difference between predicted and actual ticket prices.
- The winning model was selected based on its performance in minimizing MAE. Scenario modeling was conducted to explore different pricing scenarios and their potential impact on revenue.
- Based on the analysis, it is recommended to increase ticket prices by at least \$10 to better reflect the value of Big Mountain Resort's offerings. This adjustment is supported by insights drawn from competitor pricing strategies and market dynamics.

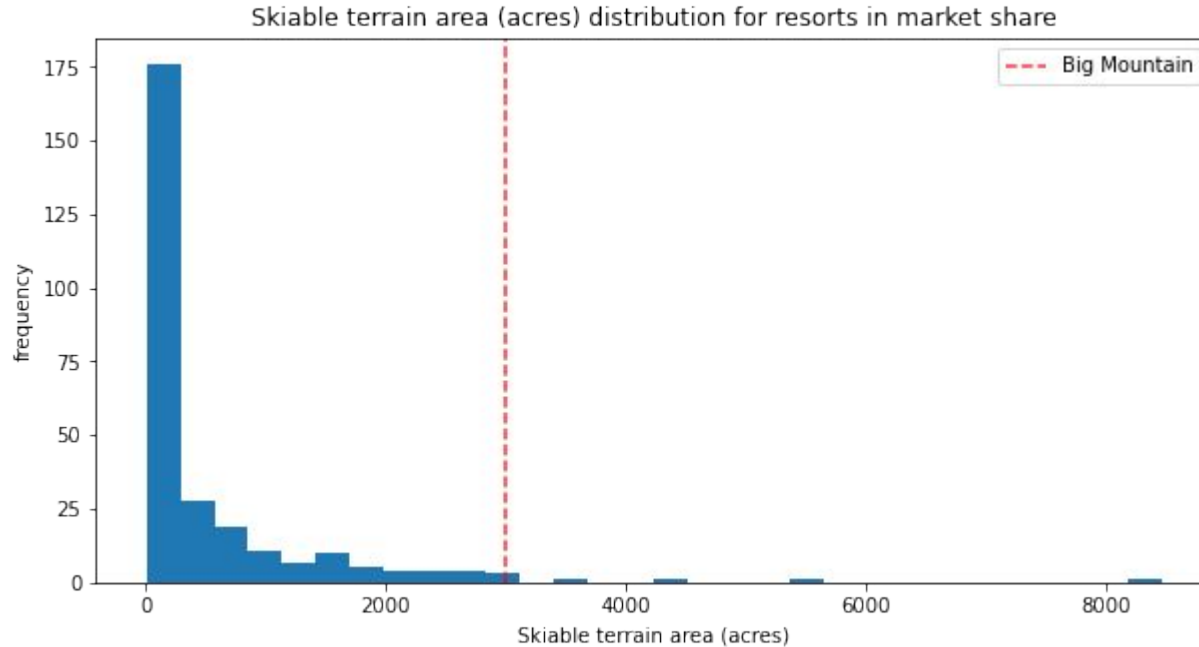
Modeling Results and Analysis - Exploring Resort Features and Pricing Trends



Modeling Results and Analysis - Exploring Resort Features and Pricing Trends



Modeling Results and Analysis - Exploring Resort Features and Pricing Trends



Modeling Results and Analysis (continued) - Understanding Big Mountain Resort's Competitive Position

- Evaluation of Big Mountain Resort's competitive position relative to other resorts highlights areas of strength and opportunities for improvement in pricing strategy.
- Comparison of key resort features and pricing strategies informs strategic pricing decisions.

Modeling Results and Analysis (continued) - Refining Pricing Strategy and Revenue Optimization

- Refinement of pricing strategy based on model insights enables optimization of revenue through strategic pricing and run management.
- Future enhancements and areas for further analysis include incorporating data on ancillary revenue streams and exploring pricing strategies employed by other resorts.

Summary and Conclusion - Summary and Future Outlook

- By implementing the recommended price increase and optimizing revenue through strategic run management, Big Mountain Resort can enhance its competitiveness and profitability in the ski resort market.
- Conclusion highlights the potential for future growth and development, with a focus on continuous improvement and adaptation to market dynamics to ensure Big Mountain Resort's long-term success.