Big Mountain Resort

Ticket Price Valuation

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Context

Big Mountain Resort is considering changes to either cut costs without undermining the ticket price or support an even higher ticket price. With its competitive features, such as spectacular views of Glacier National Park and Flathead National Forest and a new chair lift, the resort is seeking a data-driven pricing strategy in order to maximize revenue.

Project objective

By analyzing the provided data, we hypothesize that optimizing ticket prices based on the resort's facilities, features, and market position can lead to increased revenue. We further hypothesize that understanding the importance of various facilities compared to others will inform investment strategy and potentially support a higher ticket price.

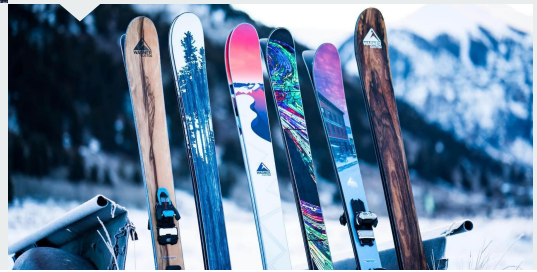
Key Findings

Features Supporting Price Increase

Fast quads and runs are found to be features that set Big Mountain apart from the average competitor, something to be bookmarked for future ticket price adjustment conversations.

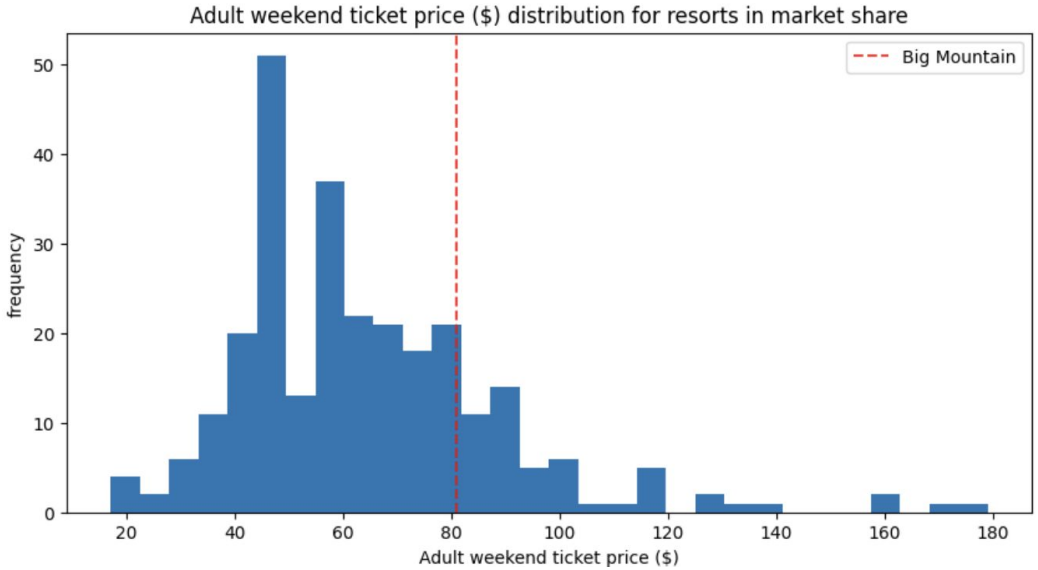
Adult Weekend Ticket Price

Modelling and statistical analysis support an increase in Big Mountain's current Adult Weekend Ticket Price.



Cutting Costs

Closing various numbers of runs was an explored avenue for cutting costs to increase revenue.



Market trends

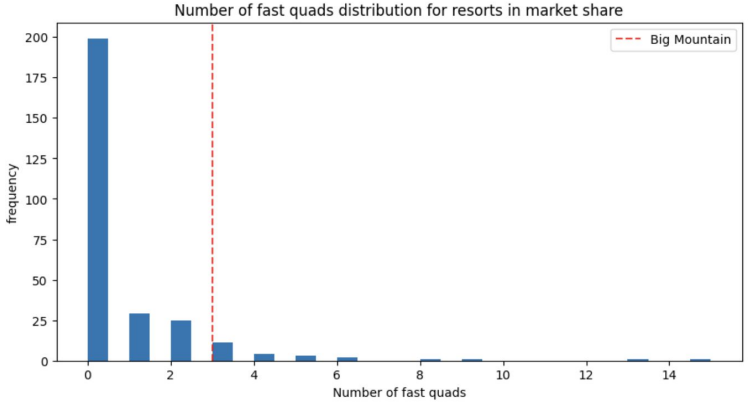
Adult Weekend Price

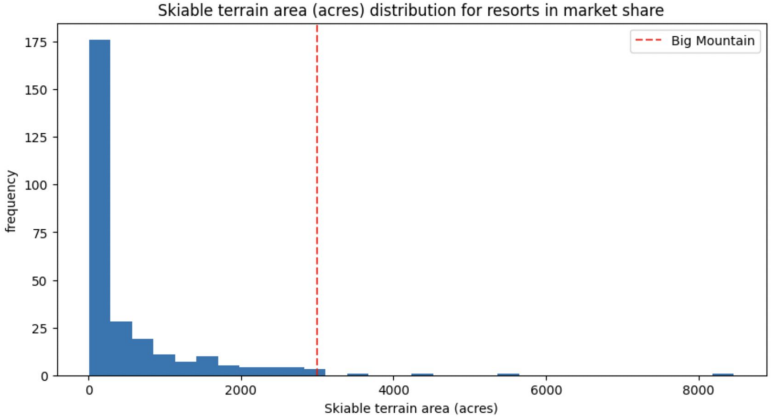
While Big Mountain sits within the upper 50% of adult weekend ticket prices in the U.S., the resort has guest features that support this statistic, such as skiable area, number of fast quads, and number of runs.

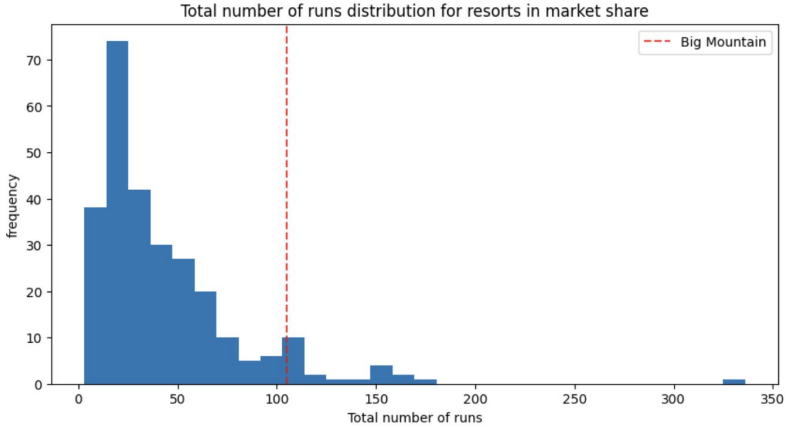
Market trends

Resort Features

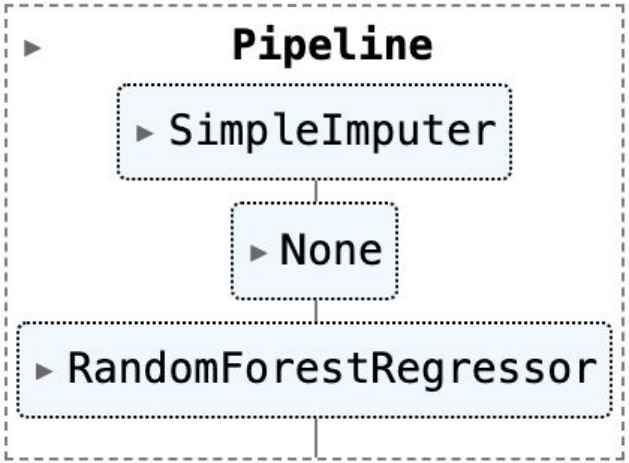
Big Mountain is set apart from competitors by being a leader in desirable characteristics from the perspective of its guests.







The Model



A Random Forest Regressor was used for our ticket price modeling scenario.

1. **Non-linearity:** Ski ticket prices are likely influenced by complex interactions between features like vertical drop, longest run, and total chairs. Random Forests can capture these non-linear relationships effectively.
2. **Robustness to outliers and noise:** As seen in the market exploration slides, many features have outliers (skewed histograms).
3. **Reduction in Overfitting:** As an ensemble method, this model will fit to our test data (that of Big Mountain's) with less error than alternative models, such as Decision Trees.

Model Findings

Our model's accuracy hinges on the assumption that other resorts accurately price their tickets based on market demand. The significant discrepancy between our predicted prices and our actual pricing suggests a potential undercharging issue at our resort. We should investigate this further to ensure we're maximizing revenue and competitiveness.

$81.00

Current Adult Weekend Price

$95.87

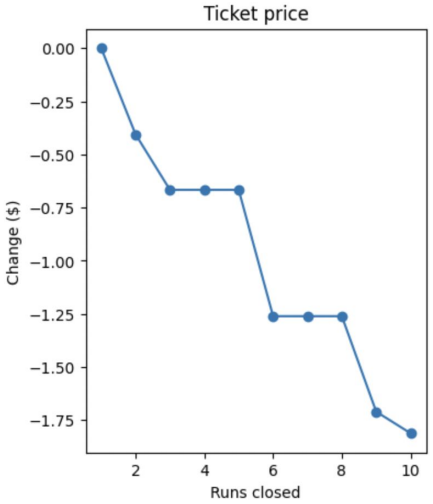
Modelled Adult Weekend Price

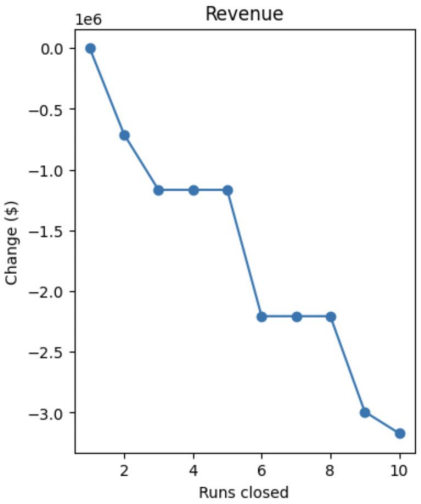
$10.39

Mean Absolute Error

Cutting Costs by Closing Runs

- **Suggestion 1:** Closing one run can be achieved without consequence to ticket price or revenue.
- **Suggestion 2:** Closing 5 runs would cause the same interval change on price and revenue as closing 3 runs, while maximizing operational cost cuts.





Conclusion

A predictive model was trained on data from competitor ski resorts to estimate the optimal ticket price for Big Mountain Resort. The model suggests a potential price increase for Big Mountain, predicting a ticket price of $95.87 compared to the actual price of $81.00. This price increase is supported by Big Mountain's unique features, like fast quads and runs, which distinguish it from competitors, and could be further justified by analyzing costs associated with snowmaking, lift operations, and resort maintenance, as well as factors like lodging prices, gear rental quality, guest reviews, and snow quality.