Problem Identification

Big Mountain's pricing strategy has been to charge a premium above the average for its market segment. Big Mountain may not be optimally capitalizing on its facilities given that the market average does not give a good sense of the relative importance of its different facilities.

- Determine the relative importance of Big Mountain's different facilities to inform investment strategy
- Optimize ticket pricing based on a pricing model for ski resorts in our market segment
- Make recommendations to offset increased operating cost of new chair lift ($1,540,000 this season)

Recommendations and Key Findings

Ticket Price

Currently, Big Mountain charges $81 for adult weekend tickets.

Our modeling suggests a price of $95.87 could be supported

Tickets are currently underpriced even considering the expected mean absolute error of $10.39

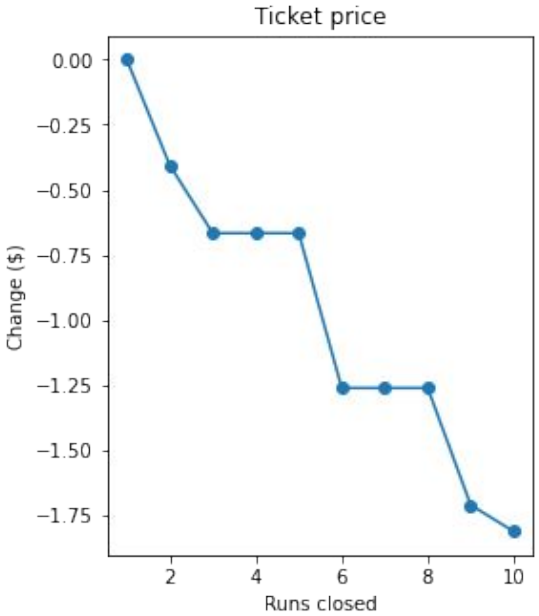
Facilities Investment

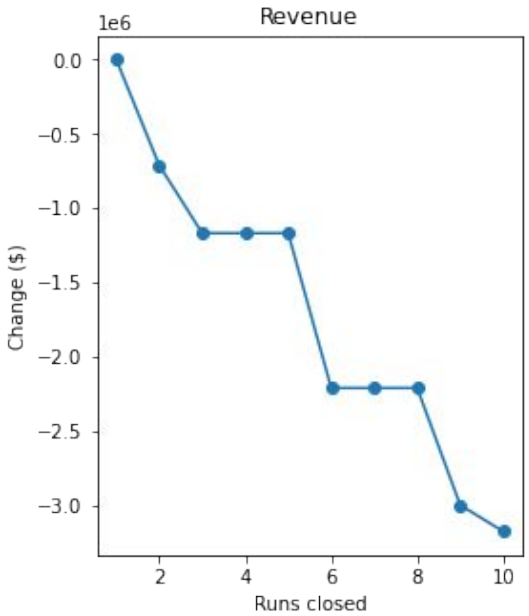
Our modeling has found that an increase in ticket price of $1.99 is supported by the addition of a new chair lift, the addition of a run, increasing the vertical drop by 150 feet and adding 2 acres of snow making.

Recommendations and Key Findings

Run closures

- The closure of a single run should make no difference in ticket price support
- Closing 2 and 3 runs reduces support for ticket price and revenue
- No further loss in ticket price with the closure of 3 - 5 runs
- 6 or more closures leads to a more significant drop





Modeling Results and Analysis

The data that was analyzed for our purposes consisted of information on 330 resorts in the same market segment as Big Mountain Resort.

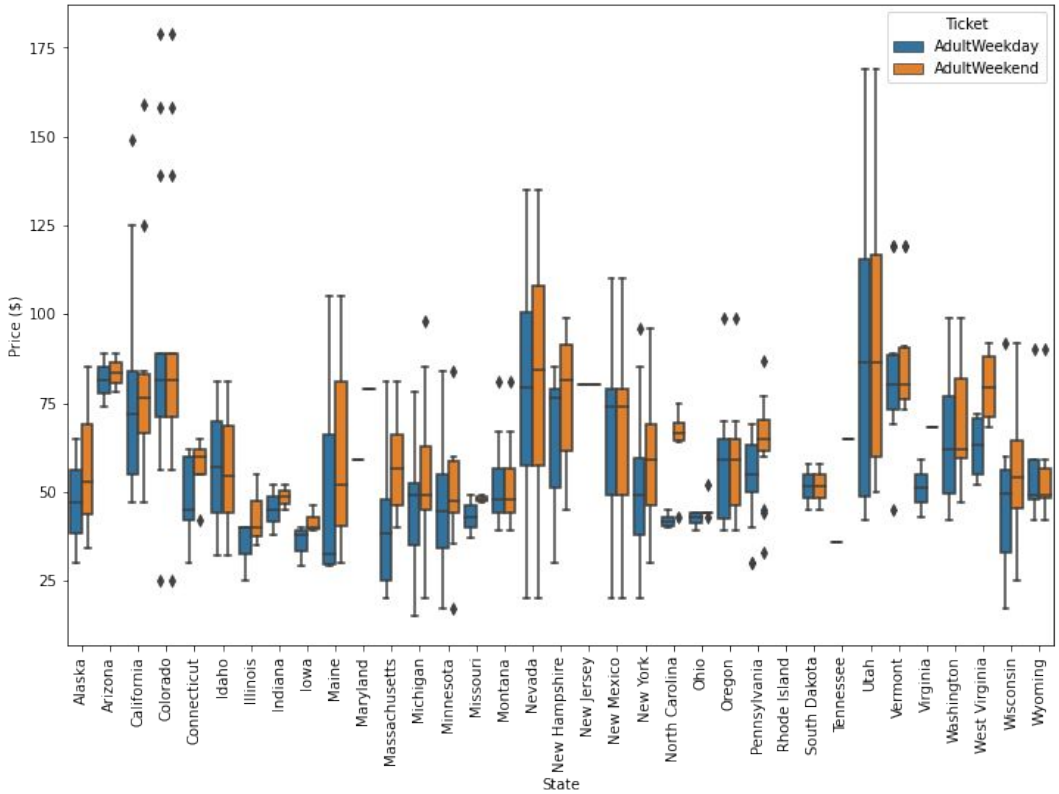
For determining a ticket price that the market would support, the target feature we selected for our analysis was ‘AdultWeekend’ which represents the prices for adult ticket purchased on weekends.

The following features were the most strongly correlated with ticket price:

- fastQuads
- Runs
- Snow Making_ac
- resort_night_skiing_state_ratio
- total_chairs

Modeling Results and Analysis

Our analysis did not yield an obvious pattern suggestive of a relationship between the state in which the resort is located and the ticket price and thus we opted to treat all states equally.



Modeling Results and Analysis

Before selecting a model for our data, a baseline idea of performance was made by taking the mean of the ticket prices of every resort in the dataset. The average price was approximately $63.81 per ticket.

After testing several models with the data, the random forest regressor displayed some marginal improvements over linear regression models with a lower cross-validation mean absolute error and less variability. Thus the random forest regressor was selected after this testing.

Summary and Conclusion

Utilizing our suggestions for facilities investments and increasing ticket prices by $1.99, on the basis of a visitor on average buying 5 day tickets, could amount to an increase in revenue of $3,474,638 over the season. Even without any additional investment in facilities, our modeling shows that we are under pricing our tickets. We could easily offset the cost of the newly installed chair lift by increasing ticket prices by less than $1.

However, as our ticket prices were found to be below what we determined the market would support based on our analysis of the available data, it may be reasonable to expect that other resorts are over or undercharging and thus our data may not be an accurate reflection of the actual price that the market could optimally support. With further information such as seasonal revenue data and number of visitors per season as well as operating expenses, we might be able to determine a more concise view of the market and be able to more accurately form a pricing strategy.