Big Mountain Resort

By: Eric Wolf

Problem Identification

- **Is the current ticket price optimized for maximum revenue**
- **Can the current ticket price be raised to offset operational expenses from an additional chair lift**
- **Will reducing the number of runs affect ticket price**
- **Scenarios that will result in increased revenue**

Recommendations and Key findings

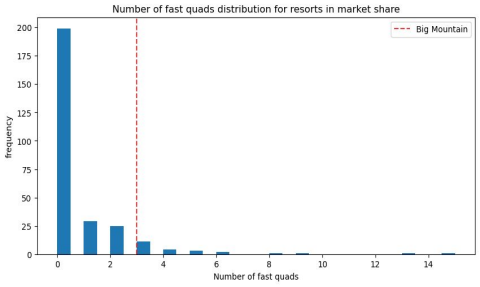
- Modeled price for optimized revenue based on current facilities: $95
- Addition of a chair lift will allow for increase in ticket price of $2.29
- Decrease number of runs based on offset of operational costs
- Increase vertical drop and number of chair lifts
- Changing snow making area and longest run by amounts modeled has limited effect to no effect

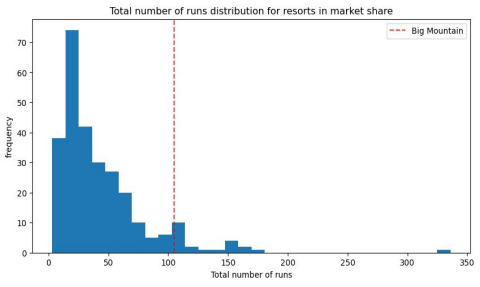
Modeling

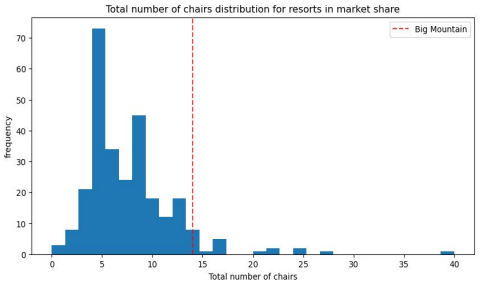
- Mean Value
  - Mean Absolute Error: $19.14
- Linear Regression
  - Mean Absolute Error: $11.79
- Random Forest
  - Mean Absolute Error: $9.54

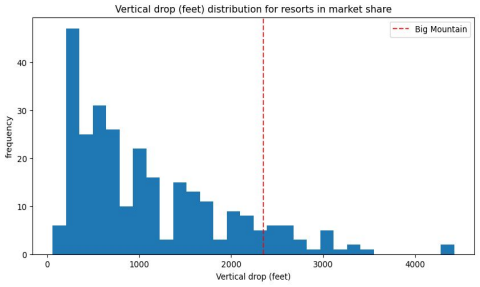
Key Factor Comparison

- Random Forest Feature Importance:
  - Fast Quads
  - Number of Runs
  - Snow Making Area
  - Vertical Drop
- Big Mountain places high in all key factor categories

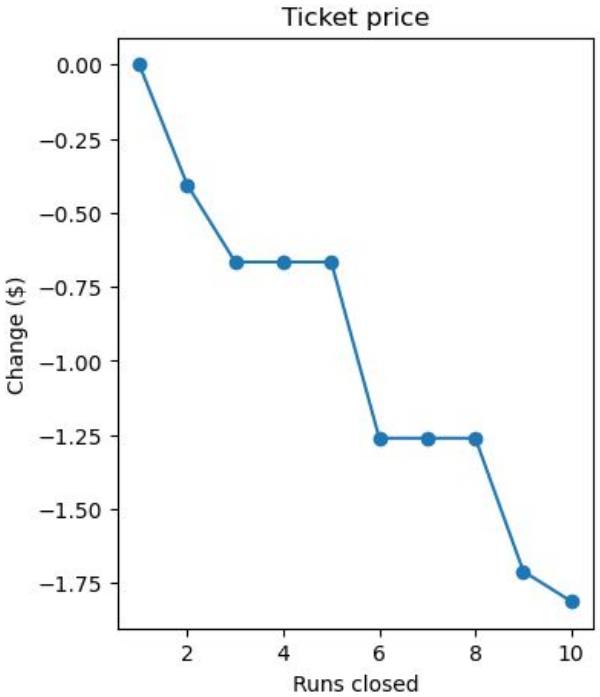


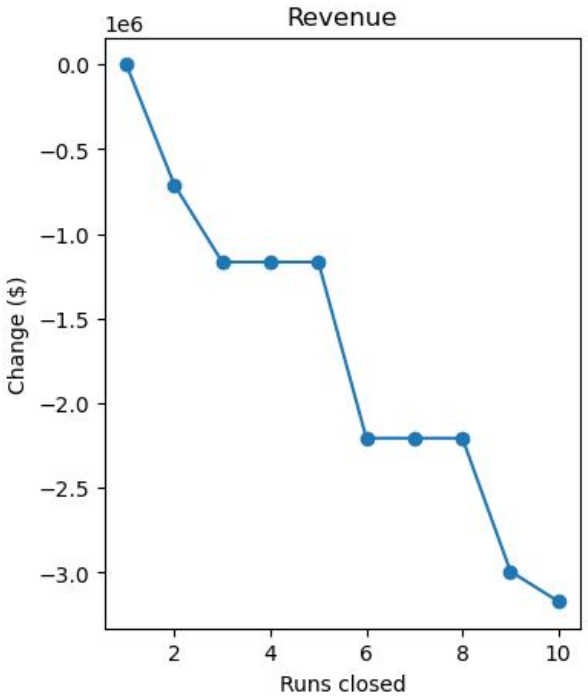






Scenario 1: Decrease Number of Runs





Scenario 2-4: Increasing Existing Facilities

- Scenario 2: Increase vertical drop, chair lifts, and number of runs
  - Increase ticket price by $8.61
- Scenario 3: Scenario 2 with an increase in snowmaking area
  - No change
- Scenario 4: Increase longest run, and snowmaking area
  - No change

Conclusion

- Current Facilities:
  - Increase current ticket price to $95
- Recommendations for future improvements:
  - Increase vertical drop
  - Increase number of chair lifts
  - Decrease number of runs