Problem Identification

Big Mountain Resort wants to optimize ticket prices to better match facility usage. Currently, ticket prices are arbitrarily set by average price of similar resorts. It is desired to know which facilities are or are not being used regularly to save on operating costs or which facilities justify increasing ticket prices. Additionally, any indicators to bolster ticket prices at cost should be identified.

Recommendation and Key Findings

Four key features lead to justification of higher ticket prices: fast quad chair lifts, the total number of runs, the snow making area in acres, and vertical drop

Data suggests we can increase our ticket price by $4.00 with current facilities.

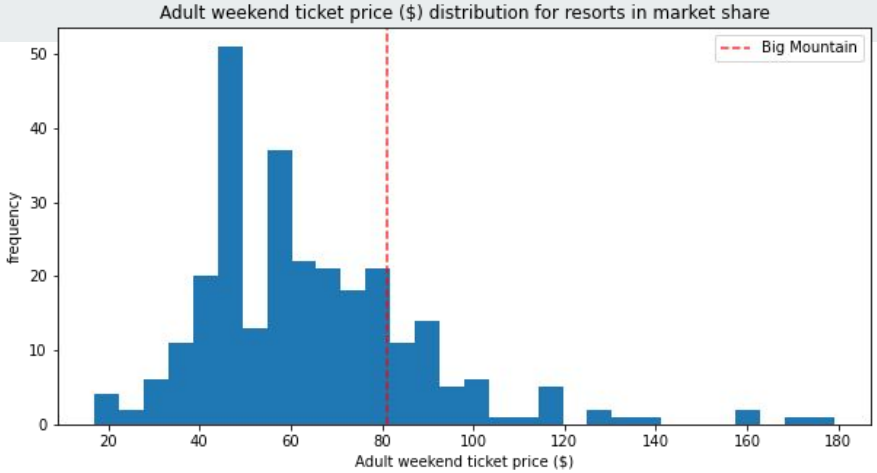
From here, two possible scenarios can be pursued:

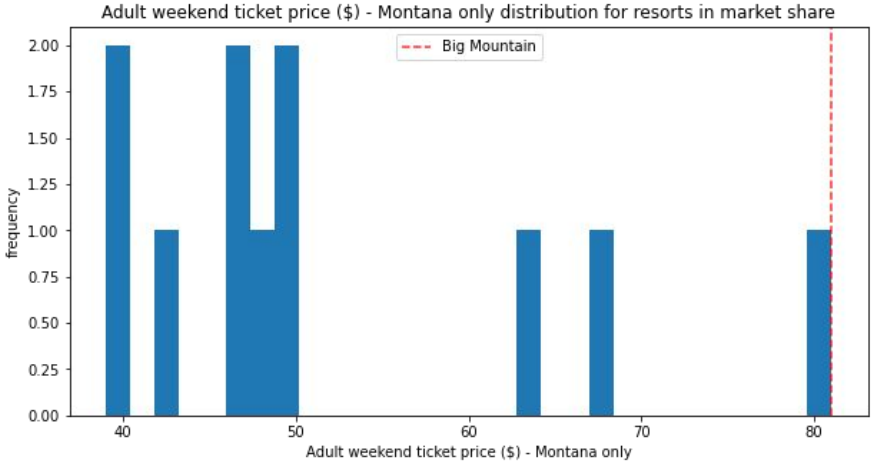
- Close 1 run to reduce operational costs while not changing ticket price
- Increase vertical drop on one run by 150 ft and adding another ski lift can justify increasing ticket price up to an additional $4.50

Initial Ticket Prices

Big Mountain Resort's initial ticket price is currently at $81.00

The mean ticket price for all resorts in market share is $63.81





Random Forest Regression Model

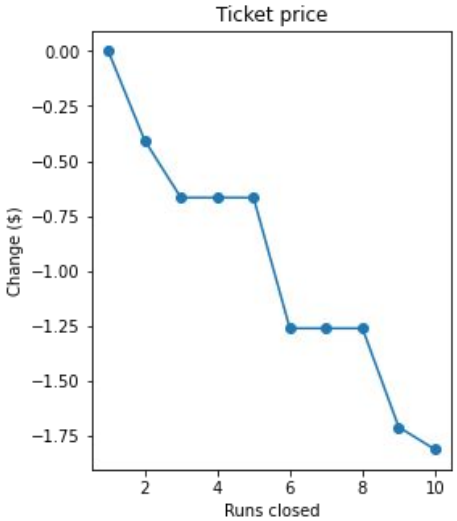
A random forest regression model generated using 70% : 30% train to test ratio for the 276 resorts within the market share

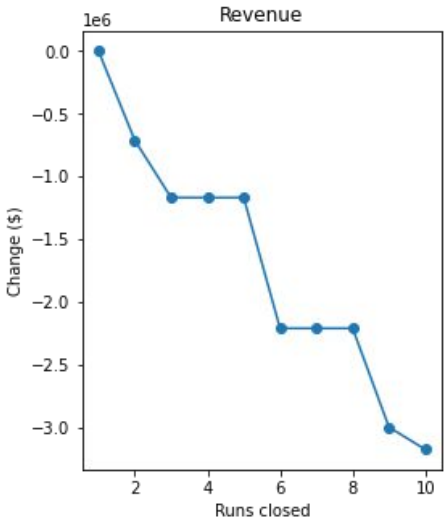
Cross-validation implies enough data has been gathered for ticket pricing within our data set

Modeling Results and Analysis - Closing Runs

Permanently closing runs reduce both ticket prices (in $) and overall revenue (in $ million)

- Closing 1 run does not change ticket prices
- Closing 2 runs lowers ticket price by ~ $0.50
- Closing 3, 4, or 5 runs lowers ticket price by ~ $0.75





Summary and Conclusion

With the current facilities, we can elect to close one run down and maintain current prices or we can keep current facilities and raise prices by $4.00.

In the future, we can upgrade one run to have a steeper vertical drop which can allow us to increase our ticket price up by $4.50.

When upgrading ski lifts, considering fast quad style lifts will support a higher ticket price.

Additional data can be gathered from patrons to choose which facilities are popular and which can be considered for possible renovation.