

## Problem Statement

What strategies Big Mountain Resort should follow this season to increase profits through 1) selecting a better value for their ticket prices or what changes they should implement to 2) cut costs without decreasing the ticket price?

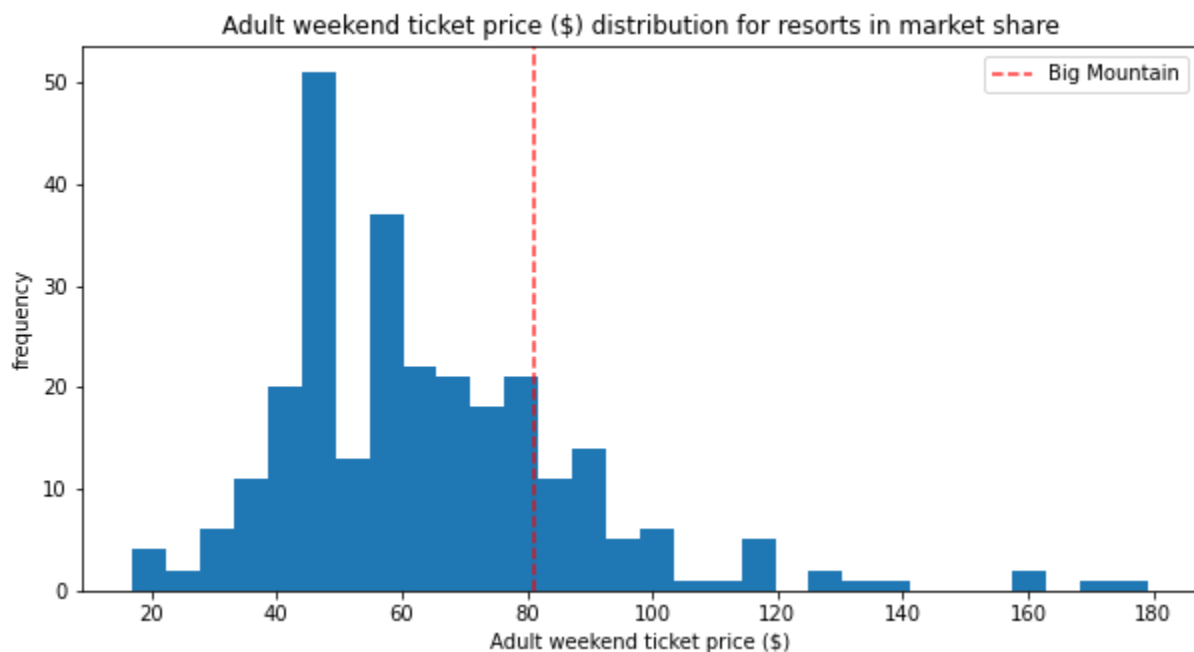
## Context

Every year about 350,000 people ski or snowboard at Big Mountain Resort. Big Mountain Resort has recently installed an additional chair lift to help increase the distribution of visitors across the mountain. This additional chair lift increases Big Mountain Resort's operating costs by \$1,540,000 this season. They are looking for a ticket pricing approach or strategic changes to increase profits and make this investment worthwhile.

## Key Findings and Recommendations

### 1) Increasing Ticket Price

Big Mountain currently charges \$81 for adult weekend tickets. The model suggests that the resorts should be priced at \$95.87 with the expected mean absolute error of \$10.39. Therefore, It can be concluded that even with the MBE, there should be a minimum of \$5.48 price increase. We have two options; we can either cut some costs or increase the ticket price.

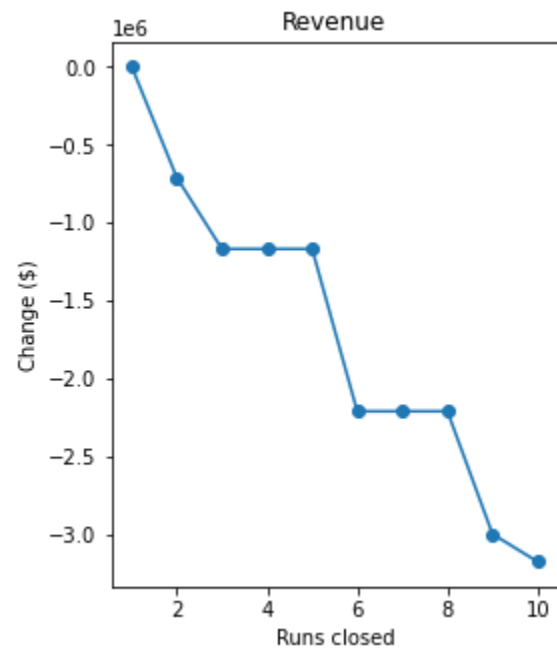
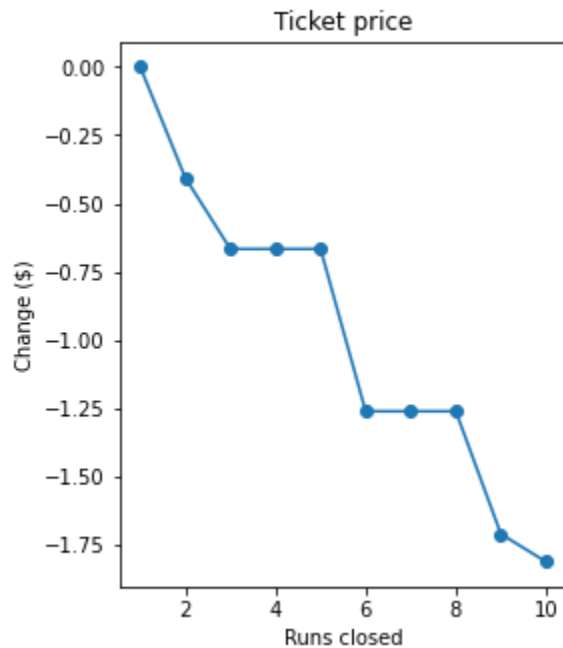


The figure shows that Big Mountain is not among the highest priced ski resorts. Hence, If features are highly influential for adjusting ticket prices, comparing Big Mountain with other resorts should give us some idea about whether we can increase the ticket price. Also, in our comparison we make the assumption that all ski resorts price their tickets fairly by considering market competition

## 2) Cutting Business Costs

The business has shortlisted some options:

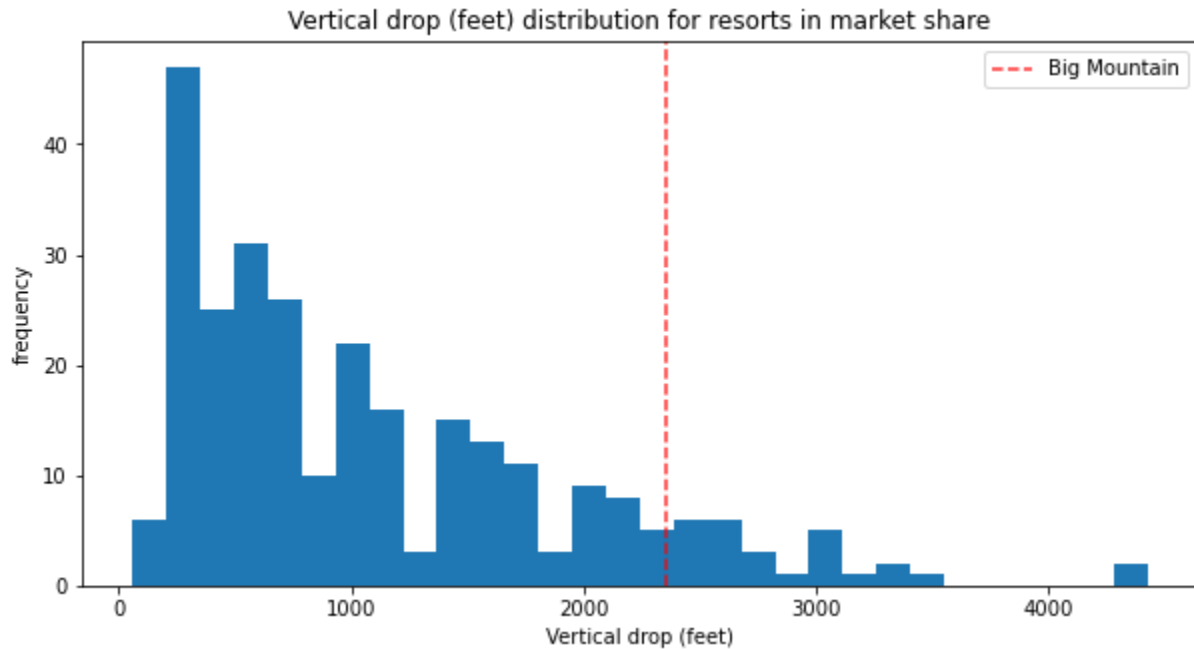
- a) Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.



**Scenario 1:** As shown in the figures above, our model reflects that closing some of the runs would help the resort to cut down some costs. The important thing to consider here is to select the point where additional run closure would cause a drop in ticket price. For example, It would be more logical to close 8 runs than 6 because there would be no additional decrease in ticket price or revenue.

### 3) Making Additional Investment

- b) Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage



The graph in the above shows that Big Mountain is in a good place for vertical drop but there are still some resorts with a greater drop.

**Scenario 2:** In random forest model, it is estimated that vertical drop is one of the most important factors to explain the increase in ticket price. There is still room for improvement for Big Mountain to increase the vertical drop. Therefore, increasing vertical drop, which also requires adding a run and chair lift to make the area accessible, would be a good investment to increase profits.

Applying these values in the model it is predicted that these investments would lead to \$1.99 increase in ticket price. After making necessary calculations by considering the average number of visitors and how many tickets they buy, it is estimated that the revenue would increase by \$3,474,638. Business executives should decide whether this investment is worthwhile after considering all the costs.

### Conclusion

Firstly, Big Mountain can increase the ticket price by as much as \$16 but after considering MAE it would be safer to make a \$5.48 increase which wouldn't cause a decrease in the number of visitors. Secondly, the resort can close some of the runs to decrease the operating cost. Thirdly, investing in higher vertical drop would increase the ticket value by \$1.99. All these options would be applied simultaneously depending on the resort's needs.