

Outline

- Problem Identification
- Key Predictive Scenarios and Recommendations
- Modelling Results and Analysis
- Summary and Conclusion



Problem Identification

Identify opportunities that exist for the big Mountain resort to maximize revenue after installation of the new chairlift:

 Optimizing ticket prices by comparing the facilities in the resort with the rest of the market segment.

 Identify other changes to be made to cut costs or support higher ticket prices.



Key Scenarios:

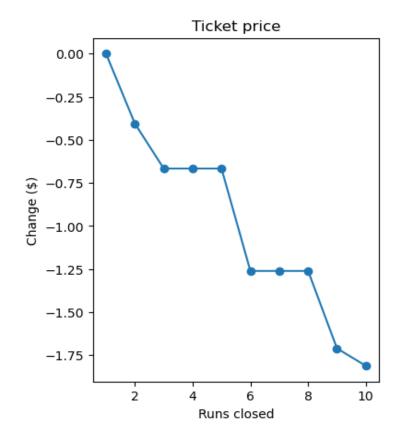
Scenario 1: Permanently closing at most 10 of the least used runs. This does not impact any other resort statistics.

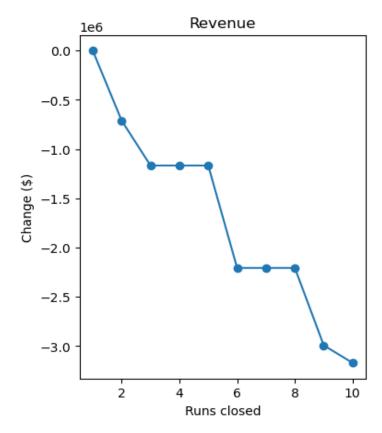
Scenario 2: Adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift, without additional snow making coverage.

Scenario 3: Adding a run, increasing the vertical drop by 150 feet, installing an additional chair lift, and an additional 2 acres of snow making coverage.

Scenario 4: Increasing the longest run by 0.2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability.

Recommendation based on Scenario #1





- Closing one run makes no difference.
- Closing 2 and 3 successively reduces support for ticket price and so revenue.
- If Big Mountain closes 3 runs, they may as well close 4 or 5 as there's no further loss in ticket price.
- Increasing the closures to 6 or more leads to a large drop in price and revenue.

Recommendation based on Scenario #2

Adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift, without additional snow making coverage will increase support for ticket price by \$1.99 and bring an estimated revenue of \$3,474,638 over the ski season.

Recommendation based on Scenarios #3 & #4

Scenario #3:

- Increases support for ticket price by \$1.99
- Will earn an expected amount of \$3,474,638 over the season.
- Seems that such a small increase in the snow making area makes no difference compared to scenario #2.

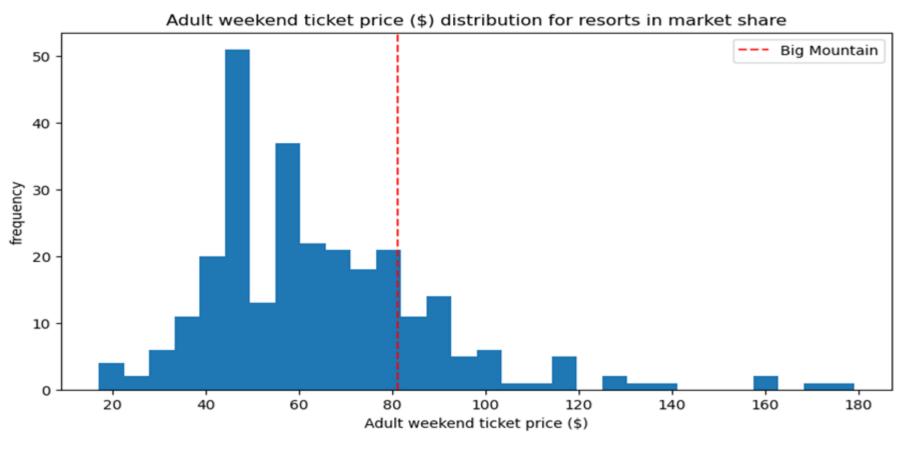
Scenario #4:

Calls for increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability.

• The predicted increase in both ticket price and revenue is \$0.0. Hence, would not recommend this model because it may increase operating costs.

Modelling Results and Analysis

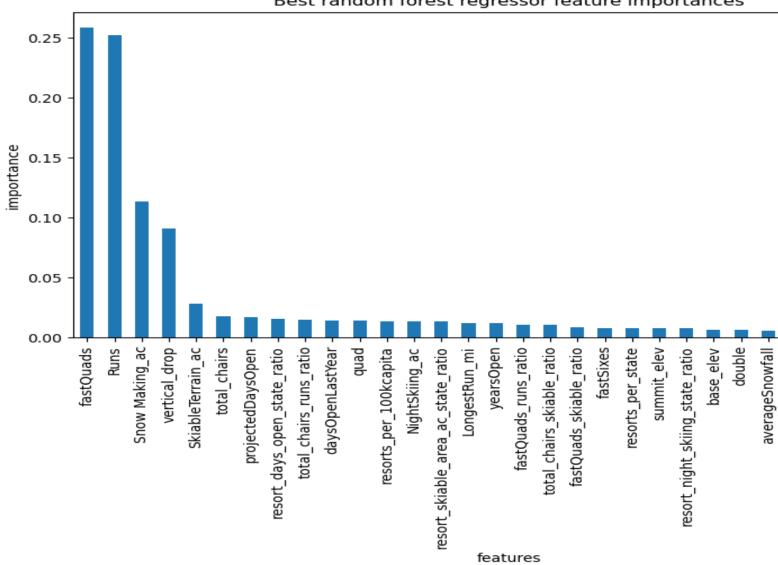
Big Mountain is in the top tier in ticket pricing among resorts in all States.



Best random forest regressor feature importances

Modelling Results and Analysis, cont'd

 The figure shown indicates the dominant features that should be considered when modelling to increase revenue. fastQuads is the most important feature.



Summary and Conclusion

Based on the data, the best model would be Scenario #2; 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.

Empower the marketing team by building a pricing model that has completed a model deployment process. This way the team will keep fine-tuning the model in the future.

Future analysis should include known operational costs if the resort is interested in understanding its net profitability.