Big Mountain Report

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I. PROBLEM STATEMENT

How can Big Mountain Resort offset the $1,540,000 increase in operating costs for this season by cutting costs and selecting a better value for their ticket prices?

Plan

Use metadata from 330 resorts to create a model that predicts ticket price.

II.   RECOMMENDATIONS AND KEY FINDINGS

Recommendation

The model shows support for a ticket price of $95.87, a $14.87 increase from the original price of $81.00. This would increase the expected revenue by $26,022,50.

Important Features

The features that effect the ticket price the most were found to be **vertical drop, snow making area (acres), total chairs, number of fast quads, number of runs, longest run (in miles), number of trams, and skiable terrain (acres)**

III.   SCENARIOS FOR FUTURE IMPROVEMENT

1st Scenario to Consider

The first scenario to consider is to add a new run, increasing the vertical drop by 150 ft, and adding an addition chair lift. **This scenario supports a ticket price increase of $8.61, with a revenue increase of $15,065,471.**

2nd Scenario to Consider

To cut costs, the company may want to consider closing down some of the least used runs.

- The model suggests no loss in ticket price for closing 1 run.

- Closing 3 would decrease ticket price by about $0.75

- Closing 4 or 5 runs would not decrease it any further.

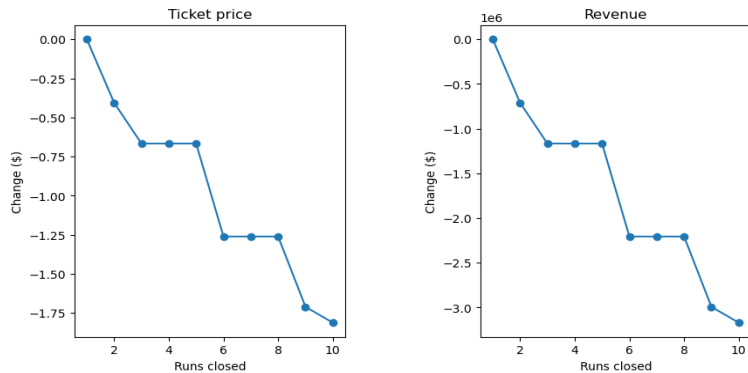See figure 1 for full results of scenario 2

IV.   SCENARIO 2 RESULTS

Figure 1: Effect closing runs has on ticket price and revenue

V. MODELS

Models		
Model	Cross-Validation MAE	Test MAE
Dummy Regressor (mean)	17.9	19.14
Linear Regression	10.5	11.8
Random Forest	**9.6**	**9.5**