Guided Capstone Project
Big Mountain Ski Resort

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Problem Identification

Big Mountain is a ski resort located in Montana. The business recently installed a new chair lift.

There is a suspicion that Big Mountain is not capitalizing on its facilities as much as it could and the business needs help and guidance on how to select a better value for ticket prices.

The data we have includes information on 330 ski resorts in the US.

Problem Identification (cont.)

- Big Mountain Resort is not capitalizing on its facilities as much as it should.
- Big Mountain Resort has recently invested in a new chair lift ($1.54M cost).
- The business needs guidance on how to select a better value for the ticket prices.

Recommendation and Key Findings

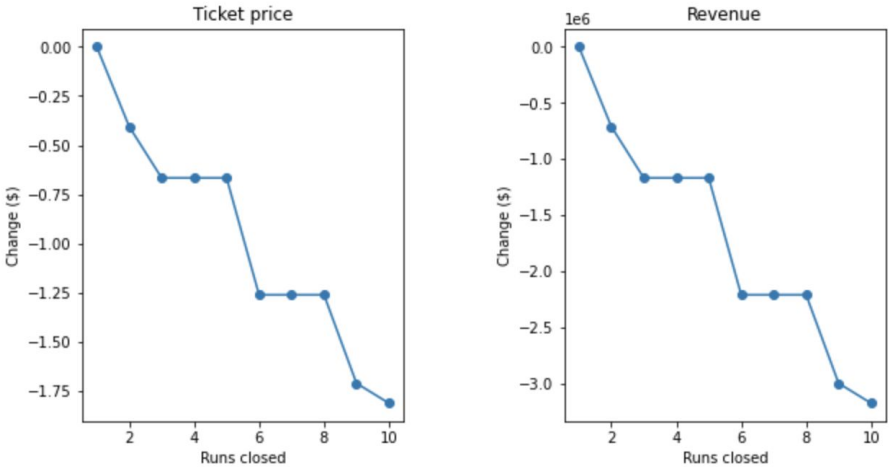
- An increase of at least $0.88 and up to $85.48 is necessary to cover the cost of installing a new chair lift.
- Closing up to 5 of the least frequently used runs to reduce operating costs without compromising the ticket prices.
- Further investigating the impact of adding a run that increases vertical drop by 150 feet.
- Do NOT increase snow making cover or longest run length.

Modeling Results and Analysis

- Used 2 models - Linear Regression and Random Forest to predict ticket prices.
- Data was split into training (70%) and testing (30%) sets.
- Random Forest was picked as the better model since it had lower mean absolute error and less variability.
- Random Forest Model predicted ticket price is $95.81 +/- $10.39. Current price is $81.
- Most important features from the model:
    - Fast Quads
    - Number of Runs
    - Snow making area
    - Vertical drop

4 proposed scenarios

1. Closing down 5 least frequently used runs (more than 6 leads to ticket price drop).



4 proposed scenarios (cont.)

2. Adding a run that increases vertical drop by 150 feet. This would result in increase in the ticket price of $1.99 and increased revenue of $3.47M.

3. Adding a run that increases vertical drop by 150 feet and increasing snow making area by 2 acres. This did not produce any ticket price increase and showed no difference compared to scenario 2.

4. Increasing the longest run by 0.2 miles. This also showed no difference in ticket price and is not recommended.

Recommendation Summary

- Increase the current ticket price of $81 by at least $0.88 and up to $85.48.
- Close up to 5 of the least frequently used runs.
- Further investigate the impact of adding a run that increases vertical drop by 150 feet.