Recommendations for Big Mountain

Problem Statement:

A new ski lift was recently added to Big Mountain Ski Resort, increasing operating costs by $1.54M. How can Big Mountain Resort increase revenue by $1M by selecting a better value for ticket price or by cutting costs without undermining ticket prices for next year?

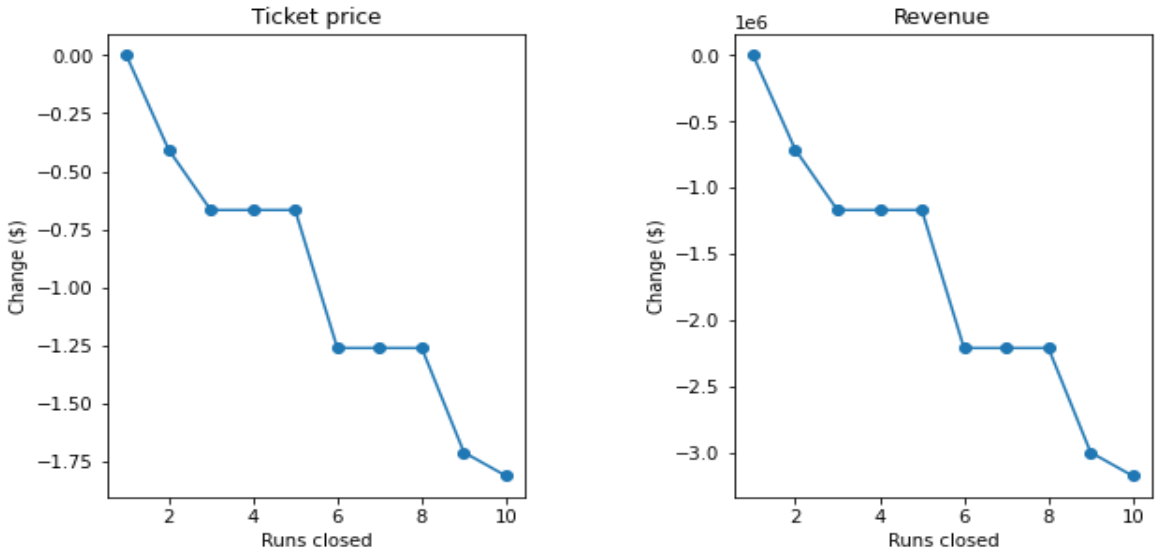
Current position:

Big Mountain currently charges $81 per ticket. The random forest model suggested that Big Mountain can support a ticket price of $95.87 with a mean average error of $10.39. Additionally, the models suggest that the most important features are fast quads, runs, snow-making coverage, vertical drops, and skiable terrain. Since people pay more for certain facilities and less for others, this is what we suggest.

Recommendations:

1. Permanently close down at most 10 of the least used runs.
2. Increase the vertical drop by 150 ft without additional snow making coverage
3. Same as above but adding 2 acres of snow making coverage
4. Increase the longest run by 0.2 miles

Scenario 1: Closing down the least used runs



The expected number of visitors over the season is 350,000, and on average, visitors ski for 5 days. Assume the provided data includes the additional lift that Big Mountain recently installed. The graphs above show the changes in price and revenue if we followed this recommendation. If we close down the least used runs, ticket revenue is expected to decrease.

Scenario 2: Increasing the vertical drop by 150 ft without snowmaking coverage

This scenario will require an additional ski lift, but it supports a ticket price increase of $1.99 per person, which can account to revenue of $3474638 this season.

Scenario 3: same as above but by adding 2 acres of snow making coverage

This scenario will also require an additional ski lift and yields supports the same ticket price increase and revenue as the one above, but with more work. In this case, Scenario 2 is better.

Scenario 4: increase the longest run by 0.2 miles

This will require this requires an additional snow making coverage of 4 acres. Unfortunately this makes no difference in ticket price increase whatsoever.

For further improvement, we suggest looking further into Option 2.