Springboard Data Science Career Track

Guided Capstone Report
Big Mountain Ski Resort

Introduction

BMR requested detailed analysis of their current and prospective position on the market of ski resorts in the US. The results should guide managers in making decisions on potential price increase, reductions of facilities, and/or further investments in order to increase the annual revenue.

Data Exploration and Results

I identified Adult Weekend Price as a target value for future modeling. Currently, BMR charges $81 per ticket. Comparing this price to other resorts did not make a lot of sense as the mean values of all prices had a 77.2 % variance. My random forest model (which proved to be more accurate) predicted the price should be $95.87, +/- $10.39 (which is the expected mean absolute error). Therefore, the price should be increased even if everything else stays the same.

Further assessment of 4 different scenarios BMR shortlisted lead to following conclusions:

- Closing down more than 1 of the 10 least used runs would lead to more or less ticket price and revenue drop, whereas closing only 1 would make no impact.
- Adding a run and increasing vertical drop by 150 feet, as well as adding another chair lift would enable an increase of the ticket price by $1.99. This is calculated on the assumption that the resort has 350,000 visitors per season and the average of 5 skiing days per visitor. The BMR already installed the additional chair investing $1.6 M. Having in mind that the price increase in this scenario would produce $3,474,638 additional revenue, the investment cost would be offset, and there would be some room for closing down some of the least used runs while still increasing revenue.

- Adding 2 acres of snow making on top of the previous steps would make no difference whatsoever.
- Increasing the longest run by 0.2 miles and adding 4 acres of snow making capability also doesn't make any difference according to the prediction model.

Recommendations

If BMR wishes to increase revenue without much effort, they should consider increasing the ticket price to at least $85.48, risking nothing at all. This could lead to a $7,840,000 increase in revenue, minus the $1.6 M of the additional chair investment.

If they are willing to make more changes, BMR should consider adding a run, increasing vertical drop by 150 feet, and using the already purchased chair for an additional $3,474,638 increase in revenue.