Guided Capstone Project Report

We designed and deployed a machine learning model that performed over 50% better than using an average estimator. This model allowed us to show what facilities and features are likely most important in determining ticket price, as well as making a prediction for the most fitting ticket price for Big Mountain Resort to charge.

Currently Big Mountain Resort charges $81 for its adult weekend price. Assuming other resorts are charging a competitive price, our model suggests your facilities warrant a conservative increase in ticket price of at least $4.48, which would be a $85.48 adult weekend ticket price. This price already includes the new chair lift. This would already yield over seven million dollars in increased revenue, without accounting for any of the potential scenarios.

Of the four scenarios suggested, we recommend scenario 2, which allows you to increase the ticket price by $1.99, resulting in approximately $3,474,638 in additional revenue. This is of course under the assumption that operating costs associated with the additional chair lift and 150 foot run elongation would not exceed this revenue increase.

For scenario 1: Closing one run would not require a ticket price change. However, after the first run is closed, there are pockets of price change requirements for different numbers of runs closed. For instance, the price difference between closing 3, 4 or 5 runs is virtually zero, so it would be most profitable to close 5, as opposed to 3 or 4, so that you cut more operating costs but keep the same amount of revenue.

Scenarios 3 has the same revenue increase as scenario 2 but with the additional cost of increased snow coverage. Scenario 4 was not found to be significant enough to increase your ticket price. Since neither of these scenarios would result in increased revenue, we would not recommend pursuing these options at this time.

The results of the model indicate you could be earning at least $10 million in additional revenue by matching the ticket price more effectively according to our model, and by pursuing scenario 2. More data including other resorts' visitor numbers could make these predictions more accurate, and adding and maintaining this model to keep adjusting the price year to year could continue to result in more profits for Big Mountain Resort.