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Guided Capstone: Big Mountain

Final documentation

**Thoughts & Process**

The nature of this guided capstone was to find if Big Mountain could cover a reduction in costs and increase their revenue in one foul swoop. They have increased the amount of chair lifts in their arsenal and have yet to change their price, or in other words they increase their maintenance/costs, and have not increased their revenue (ticket price).

The biggest portion of solving this problem was exploring the data, and then cleaning the data. This was a large part of being able to create a meaningful prediction. To create that prediction, I had to create multiple models to see which one was the best fit for the problem we are trying to solve, and create meaningful scenarios to see what the best course of action for Big Mountain would be.

I created multiple different models to best try and predict the process that Big Mountain should follow to increase revenue, and at the same time possibly lower their costs to the closest to the actual values. Once I found the best model it was time to test different scenarios that the business was going to consider.

First we plotted a comparative graph of Big Mountain vs. the competition, starting with price, and the main price indicating variables. Through this exploratory analysis we were able to see that in the cases of the big variables that mainly indicate the ticket price for resorts, Big Mountain almost exclusively ranks in the top percentages across all of them. Although, Big Mountain fell closer to the mean for ticket price, meaning that it wasn’t a far leap to hypothesis that Big Mountain would be able to raise their price for their tickets.

To test this hypothesis we wanted to run a simulation using our model and assumptions that we gathered from the company, and what their possible plans were. Their possible scenarios started with permanently closing down the lowest 10 performing runs, and not impacting any other resort statistic. Graphically it showed that shutting down only one would have no effect, but after that the price starts to decrease.

The second scenario we wanted to test was increasing the vertical drop by adding a run 150 feet lower. This, in hand, would require an additional chair lift, and wouldn’t add any additional snow making coverage. This would be able to increase the price of the ticket by up to 9-$10 (per each), and would increase revenue by approximately $1,700,000 over the season.

The third scenario would do the same as the second scenario. The one caveat is that this one would increase the snow making coverage by 2 acres. This is the best scenario for Big Mountain (revenue based only), because it would raise ticket prices by approximately $10-$11, and revenue by approximately $1,800,000. The one thing to take into account is the added costs and maintenance this would add for them.

The fourth scenario was to increase the longest run by 0.2 miles, bringing the total to 3.5 miles, and would require 4 more acres of snow making coverage. This one returned an expected increase of 0. So, longest run and total run are not significant factors in ticket price, meaning this would bring no benefit and increase their costs.

To bring to the board/manager, I would put forward scenarios 1-3. This is because shutting down 1 run would lower costs and not reduce the ticket price/revenue. Scenario 2 & 3 would increase revenue/ticket price, but we can not predict the increase of profit without knowing the costs of these extra extremities would cost them.

Once they figure out the costs and profit for these they will be able to make an informed decision to decide which of the scenarios would be most beneficial to them. Would closing down one run be best, or would increasing what they offer and increasing their costs be better for them.