# Guided Capstone Project Report

Big Mountain Resort, a ski resort located in Montana, recently installed an additional chair lift to help increase the distribution of visitors, which increased operating costs by $1,540,000 per season. Their pricing is based on charging a premium above the average price of resort in its market segment, but they are looking to base their ticketing price on a more data-driven strategy or look for strategies to cut costs to offset the price of the new lift.

The first item evaluated was the ticket cost. Big Mountain is currently charging $81 per day. This was compared to other comparable resorts across the United States. It was determined that there was no significant reason to only use resorts in Montana so every state's data was used. Based on our data, our model determined that the price for Big Mountain Resort would be $95.87. Even with the expected mean absolute error of $10.39, this suggests there is room for an increase. It should be noted that our model is reliant on the idea that the other resorts used in the data have priced their tickets properly.

During the exploration, four different scenarios were explored as ways to either increase ticket price value or to cut maintenance costs. Two of these four did not create any change in ticket price value, and would even create more maintenance costs. Those two scenarios were:

1. Adding a run, increasing the vertical drop by 150 feet, installing an additional chair lift and adding 2 acres of snow making.
2. Increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability.

Neither of these two options would add value to ticket prices.

It was determined that some features that help increase ticket value are number of runs, vertical drop, and chair lifts. Currently, Big Mountain Resort has 105 runs, a 2353 foot vertical drop, and 14 chair lifts. If Big Mountain adds a run, increases the vertical drop by 150 feet, and installs an additional chair lift, this scenario increases support for ticket price by $1.99. Over the season, this could be expected to amount to $3,474,638. However, this figure does not take into account the cost to maintain this new area of terrain that will need to have snow cover.

If Big Mountain Resort is looking to explore methods of cutting down costs, they may consider closing some of the runs. Currently, Big Mountain Resort has 105 runs. Compared to other resorts, this is one of the higher number of runs. If they were to close one run, there would be no change in ticket price or change in revenue. If they close two or three runs, there is a decrease in ticket price and revenue. Then if they close 4 or 5 runs, the ticket price and revenue is the same as closing 3 runs. In order to cut down some of the maintenance cost, closing either 1 or 5 runs would seem to be the most logical. Closing one run would not lose any revenue and it would cut maintenance costs, so that would be recommended. Then depending on how much money would be saved on maintenance cost, the idea of closing 5 runs should be explored.

These numbers represented above were based on the recommendations on the data. Current maintenance costs have not been factored into the numbers. Another factor that could influence the recommendations is the ticket sales for other resorts.