**Guided Capstone Project Report**

Black Mountain Resort currently charges $81 per ticket. We are to determine how much price increase is reasonable as there has been a suspicion that we are not capitalizing on our facilities as much as it could, and what other change we can make to maximize its revenue/profit. In addition, Black Mountain recently installed a new chair lift that will increase their operating costs by $1,540,000 this season, for which we need to offset its cost as well.

We took the approach of comparing 276 other ski resorts throughout the United States, and studying them to see if there are patterns in the ticket prices and the services they offer.

In our analysis, we did not see any state specific data, such as number of resort per capita or per square mileage, did not seem to have any noticeable correlation on the ticket prices.

Instead, we determined the four top features of the ski resort that seem to have most linear relationship to their prices are, the number of fast four person chairs, number of runs on the resort, total area coverage by snow making machines, and the vertical change in elevation from the summit to the base.

Using these findings in our model, we came up with four scenarios. (The figures are based on the number of 350,000 visitors we usually expect over the season who ski for five days on average.

The expected number of visitors over the season is 350,000 and, on average, visitors ski for five days.

Scenario 1 is to close 10 least utilized runs.

Analysis shows that closing 1 run does not have negative effect on the price nor revenue, but any further closing will reduce the estimated ticket price as much as $1.75/ticket. We may want to close one run with the most operation cost rather quickly since that has no negative impact. Anything more than that will be discussed further by finetuning how much operation cost we save vs. how much revenue we lose.

Scenario 2 is to increase vertical drop by 150 feet with an additional lift.

This scenario will add $8.61 to our ticket price ($89.61/ticket) which will increase the revenue by $15,065,471.

Scenario 3 is the same as Scenario 2 with 2-acres of snow making coverage. This will increase the ticket price by $9.90 ($90.90/ticket) and increase the revenue by $17,322,717.

As for Scenario 4, it is to increase the longest run by 0.2 miles and adding 4 acres of snow making coverage.

To our surprise, our model did no project that this will add any value to the ticket price. did not seem to have no impact to the ticket price nor revenue. But the model that we used for our analysis places a feature of the longest run with low importance. And we are a little surprised that adding snow making coverage did not have any impact as that is the second most important feature in the model. We may need to look into Scenario 4 with some other model.

One thing to note is that the operational/maintenance cost for these additional features are not taken into consideration in our analysis which is crucial. Part of the reason why Big Mountain currently has rather higher ticket price as compared to other resorts could very well be due to high operation/maintenance cost.

As such, we need to discuss further with these possible scenarios.

Without further analysis, what we recommend now is to close one least utilized run, as a part of recommendations in the Scenario 1.