As we know, we recently increased our operating costs significantly through the purchase of an additional chair lift. Because of this, we decided to look at reevaluating our admission price as well as updating some of our resort features. In order to get some insight on how to answer our question, we used a data set with pricing and feature information for a wide variety of ski resorts all over the country. To help us further focus on ski resorts that were somewhat comparable to Big Mountain ski resort we organized our data by state. This allowed us to make comparisons across different markets as well as the market for our resorts home state.

**Price data**

After combining the weekend and weekday price in the data set, we looked at a distribution of prices for all of the resorts. Big Mountain resort sits in the top half of the distribution. We also looked at a distribution of prices for Montana specifically as this is our resort home state. Big Mountain resort sits in the top quartile of the distribution.

The current ticket price for Big Mountain Resort is $81. When we applied our model to the data minus the data for Big Mountain Resort, we found that the expected Big Mountain Resort price was $95.87. Our mean absolute error was $10.39, so this suggest there is room for increase.

**Feature comparisons**

Then we get to the big question: What ski resort features or attractions seem to have the largest effect on ticket prices? We did some data modeling and training to try and determine which ski resort features seemed to have the highest effect on the resort ticket price. After testing a few models on the data we determined that the ticket price for ski resorts are most greatly affected by the following features: total skiable area vertical drop, snow making, total chairs, fast quads, runs. There were a few feature distributions that Big Mountain resort sat in the higher range of. These features were snow making, total number of chairs, runs, longest run, and skiable terrain.

**Analysis**

We tested a few scenarios for feature changes including our additional chair lift.

Scenario 1 involved closing up to 10 of the least used runs.

In looking at the possibility of closing runs, we see that closing one run makes no difference. Any number of runs after that would reduce support for ticket price revenue by about the same amount in the following groups:

2-5 Runs

6-8 Runs

9-10 Runs

However, the only real way to know if this is worth pursuing is to get more data about the operation costs for our varying runs.

Scenario 2 included the following changes: adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift.

Our average expected number of visitors seasonally is 350,000 and our average visitor stay length is 5 days. Using these figures for our model, we found that this scenario increases support for ticket price by $8.61. Over the season, this could be expected to amount to $15065471.This would not fully cover the additional operating costs of the additional chairlift.

Scenario 3 involved making all of the changes in scenario 2 as well as adding 2 acres of additional snow making. According to our model this scenario increases support for ticket price by $9.90. Over the season, this could be expected to amount to $17322717. This additional revenue would cover the operating costs of the additional chair lifts plus some.

Scenario 4 involved increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability. Applying the model with these changes yielded no difference whatsoever.

**Conclusions**

Based on the data we have, it seems that the best course of action for our resort would be to implement Scenario 3. This would involve adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift and adding 2 acres of additional snow making. This would allow us to implement a justified price increase that would yield us enough additional revenue to support the chair lift addition and beyond.

It is also worth noting that further investigation into the closure of a few runs could be beneficial. We could get clearer data about how this could cut operation costs and allow us to maintain our price increase if we get data about the operating costs for the individual ski runs. Also getting data about the operational costs of the snow making tools could be helpful as well. This would help us create an optimal space of increase for snowmaking.