**Recommendations for Big Mountain Resort**

After analyzing the data set provided by Big Mountain Resort, there are several key recommendations that I will provide in this document. These recommendations are based on my interpretations and modeling of the data set. The first and simplest recommendation that I can make is for Big Mountain to increase the price of their adult weekend tickets. I came to this conclusion by inputting the pricing data of all the other resorts within the dataset into the predictive model that we developed, which resulted in a modeled price of $95.87. This price is nearly $15.00 higher than the $81.00 Big Mountain Resort is currently charging. Even after taking into account the expected mean absolute error, our model suggests that there is room for an increase in price. This relies on the assumption that the other resorts are setting their prices accurately based on what their consumers are willing to pay, but it is still a good starting point.

Next I analyzed Big Mountain Resort within the context of the market, using some of the other resort features included in the data. While it is true that Big Mountain sits on the higher end for price amongst all of the other resorts, they also offer above average facilities/features including: vertical drop, snow making area, total number of chairs, longest run length, overall number of runs, and area of skiable terrain. Customers are generally willing to pay more for resorts that offer these levels of features, which lends more credibility to our modeled price and the subsequent recommendation to raise ticket prices.

Finally, I used our model to analyze the shortlist of options that Big Mountain Resort had posited as potential ways to cut costs and/or increase revenue. This leads me to my second and then my final recommendations. The first scenario presented was to close up to 10 of the least used runs. This would lower operating costs through reduced maintenance, but could also reduce the price that customers are willing to pay. I created two plots showing the effect of closing runs on ticket price and revenue. The models indicated that closing one run made no difference, while closing two or more runs led to a reduction in support for ticket price and therefore revenue as well. Based on this information, my second recommendation is for Big Mountain Resort to close a single run. This would reduce their operating costs and allow them to either reallocate those resources on features with a better ROI, or just keep the money that they would have been spending. They may wish to experiment with closing down different runs and seeing what (if any) difference it makes, however, the important thing is for them not to close down more than a single run at a time.

My final recommendation is based on the second scenario provided by Big Mountain, in which they add a run, increase the vertical drop by 150 feet, and install an additional chairlift. Our model predicted that these changes would increase support for ticket price by $8.61 amounting to $15,065,471 over the course of the season, even after taking into account the cost of an additional chairlift. Based on these numbers, my final recommendation for Big Mountain Resort is to go ahead with this plan. I also ran the third and fourth scenarios through our model (same as scenario 2 in addition to adding 2 acres of artificial snowmaking, increasing the longest run by .2 miles and adding 4 acres of snowmaking, respectively) however these both had negligible effects on support for ticket prices. These are, therefore, not included in my list of recommendations. In conclusion, these recommendations should provide Big Mountain Resort and their executives with a framework for increased profitability, and more visibility into their resort’s features and how they compare to those of their competitors. These are key pieces of business intelligence that can help executives make more informed decisions both now and in the future.