Big mountain ski resort recently installed a chair lift to help increase distribution of visitors across the mountain, on average 350,000 people ski/snowboard at Big Mountain every year. With the new chair lift comes additional operating costs of about $1.540,000 this season. So far, the resort's pricing strategy has been to charge a premium above the average price of resorts in its market segment. There's a suspicion that Big Mountain is not capitalizing on its facilities as much as it could. Basing the pricing on just the market average does not provide the business with a good sense of how important some facilities are compared to others. We reviewed the pricing strategy and also considered the 4 changes provided to either cut costs without undermining the ticket price or support an even higher ticket price.

For initial guidance we evaluated each state’s distribution of prices for their resorts (Figure 1). After careful analysis we determined adult weekend price will be used as the guide for our model and analysis. Big Mountain already has a higher price than most resorts as seen in Figure 2.

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Figure 1. Ticket price distribution for each ticket type by state

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Figure 2. Big Mountain adult price ticket comparison

Based on our model Big Mountain is not capitalizing on its facilities. We determined which features seem to be the most correlated to ticket price (Figure 3) and Big Mountain compares highly to other resorts (Figure 4). Our model indicated that the price should be $95.87 vs current $81.

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Figure 3. Feature importance for chosen model

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Figure 4. Big Mountain relevant features compared to all other resorts

After analyzing the 4 proposed scenarios to validate the ticket cost we found the following:

1. Permanently closing up-to 10 of the least used runs. This doesn't impact any other resort statistics.

* Closing 1 run makes no difference in price nor revenue. The analysis shows that you can close up-to 5 runs without significant change in ticket price with a relative drop in revenue, any further drop of runs would result in much lower ticket prices and 3x loss of revenue. The analysis comparison is shown below (Figure 5).

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Figure 5 Analysis of closing runs vs revenue

1. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage

* This scenario increases support for ticket price by 8.61 and looking at the whole season that is an expected amount of 15 million increase in revenue.

1. Same as number 2, but adding 2 acres of snow making cover

* This scenario leads to an increase of 9.90 per ticket and an additional 3.5 million compared to scenario 2.

1. Increase the longest run by 0.2 mile to boast 4 miles length, requiring an additional snow making coverage of 4 acres

* This scenario had no effect whatsoever.

With the increase in revenue for scenario 2, involving increasing the vertical drop by 150ft, it would look like the logical choice for consideration as the scenarios for closing runs and adding to the longest run bring less or no change in revenue. However, further analysis should be performed with extra data such as the price to operate a new chairlift (needed for scenario 2 to bring skiers back up), the price of maintenance to groom skiable acreage (added skiable area proposed in 2 scenarios), the cost of adding additional snow making capacity, the cost to create or extend trails, and possibly operational cost of maintenance and lift availability on the runs that might be closed if we look further into scenario 1.