**Project Report**

**Problem Statement:**

In Big mountain resort plan is to install new chair, which would increase the operating cost and impact the existing 9.2% profit margins. Stakeholders would want to continue with the existing profit margins. Data scientist is expected to suggest the options to increase the revenue which in turn would help maintain the profit

**Solution Options:**

Currently big mountain resort is charging 81 dollars. As per the modeling the suggested ticket price is around 85 dollars ( 95 dollar as modeling output for pricing, with +-10 absolute error, hence considering the lesser and most optimum value as 85 dollar), pricing of big mountain resort is already in group of premium luxury resorts, to match up the operating cost price can be increased by 1 or 2 dollars.

Below is the summary of few possible scenarios when executed through model:

**Scenario 1**: Close up to 10 of the least used runs:

Based on the modeling output, closing 1 run makes no difference to the pricing but it would reduce the operational cost of maintaining the one run but as we don’t have the details of operational expense of one run hence cannot tell exact profit/savings.

**Scenario 2**: Big Mountain is adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift.

By adding one run, increasing vertical drop by 150 ft and installing additional chair model **suggested increase of 10dollars** to the current price which over the season would **yield additional revenue of $18951705 dollar**, here as well we don’t have the details of cost incurred in adding additional run, increasing vertical drop and installation of chair car along with any other operational cost hence cannot tell exact profit.

**Scenario 3**: Using second scenario along with 2 acre of snow making.

This scenario when executed through our models suggest minor **increase of 1 dollar** in the base price which over the season would yield additional revenue of **$1392045 dollar**, here also we are missing the data for operational cost mentioned in scenario 2 along with any additional maintenance cost of 2 acre of snow making.

**Scenario 4**: Increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability.

For this scenario, model does not show any change in pricing hence can be ignored.

Overall business has scope to increase the ticket price but due to limited data available around operating cost(operational / maintenance) of listed scenario hence ascertaining the exact profit/loss post increasing the price by 1or 2 dollar and reducing one run is not possible.