# **Big Mountain Resort Recommendations**

1. ***Background***

Big Mountain Resort recently installed an additional chair lift to increase distribution about 350,000 visitors across the mountain, which increased operating costs by $1,540,000 this season and the business would like to keep profit margin of 9.2%.

1. ***Initial thoughts***

To keep profit margin as usual with increased operating costs, there are two possible solutions: 1. Increasing costs (ticket prices) for visitors; and 2. Attracting more visitors. Considering ski resort is very location specific and the potential market base is quite stable, we would mainly consider the first option to increase ticket prices for visitors.

How to increasing ticket prices requires technique and careful balance, as higher prices might discourage customers and make them turn to nearby competitors, meanwhile lower prices would fail to make the expected profit. It is in this understanding that data science is engaged to find out what would be an appropriate prices.

1. ***Recommendations***

The model suggests that suppose all other things remain the same, Big Mountain Resort might be able to increase its price for adult weekend tickets (AdultWeekend) to $87.25, contrast to its current price of $81.00, in order to keep its usual profit margin.

1. ***Further Investigations***

The price for adult weekday (AdultWeekday) is another important factor to further investigate on. During data processing, we found AdultWeekend and AdultWeekday is highly related for a given resort (coefficient ~0.9), it is worthwhile to research the appropriate pricing for adult weekday tickets.

There are a few variables that worth further analysis and potentially could contribute to profit making. Runs (Count of the number of runs on the resort), SkiableTerrain\_ac (Total skiable area in square acres), projectedDaysOpen (Projected days open in the upcoming season) and NightSkiing\_ac (Total skiable area covered in lights for night skiing) are among those.

In our model, we predicted adult weekend ticket prices while holding all other variables constant. In reality, changes of other attributes/variables also impact on the predicted variable AdultWeekend. More analysis is needed to figure out the best scenario of changes among variables.

Current model also did not take into consideration of the price sensitivity of consumers. As higher ticket prices may affect the number of visitors and lower ticket prices may attract more visitors, it is of high importance to study on price sensitivity of consumers and the inter-connections between prices and number of visitors. One important variable that is missing from the current dataset is number of visitors.

The provided dataset offers information on similar attributes of skiing resorts. However in life, there might be specific features and consumers would prefer. Exploring consumer preferences, specifically why consumers choose to go to one resort instead of another one might offer insights on what aspects that Big Mountain Resort could work on to either attracting more visitors, or increasing ticket prices, or both that eventually contribute to profit making.