Recommendations for Big Mountain Resort

Summary

The aim of this report was to find out what recommendations does Big Mountain resort have to keep their margin profit at 9.2% after the increased operating costs from the additional new chair through lifting their ticket price or increasing the more resort opening days? After analyzing the dataset containing information from 330 resorts in the US, that can be considered part of the same market, we built models to predict ticket price and days to open each season based on the data.

The prediction results:

- Our current weekend ticket price is cheaper than the recommended price from the model.
- Days open last year are less than the recommended days from the model.

Conclusion:

- Increase our weekend ticket price to the price suggested by the model
- Extend open days to the number suggested by the model, to efficiently increase the total revenue.

STEPS:

1. Cleaned and preprocessed the original dataset that contains information from 330 different ski resorts across the US.

2. Built 3 different prediction models model 1,model 2,model 3 by choosing different features.

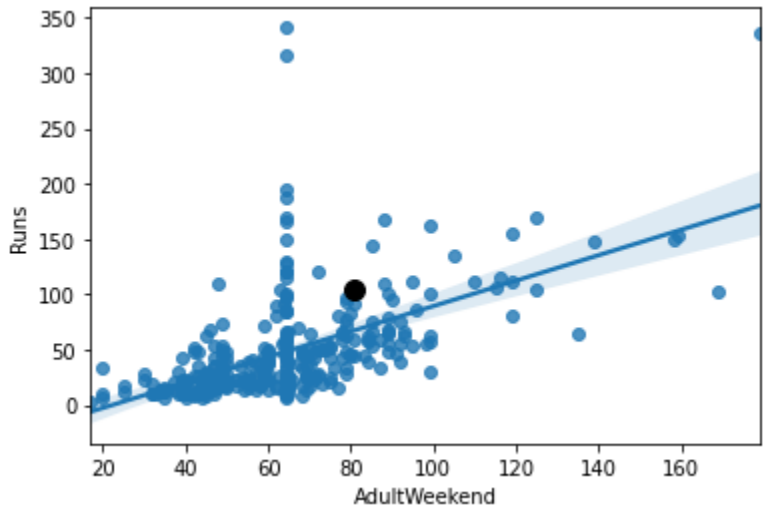
    - We built Model 1 which includes all the features
    - In Model 2 ,we dropped1 feature that are not actionable
    - in model 3 we dropped 3 features that are not actionable

3. Compared the performance of each model and the metrics used to check performance are MSE and explained variance score, we noticed the metrics of the model 2 are very close, in the end we chose model 2, which has one unactionable feature.

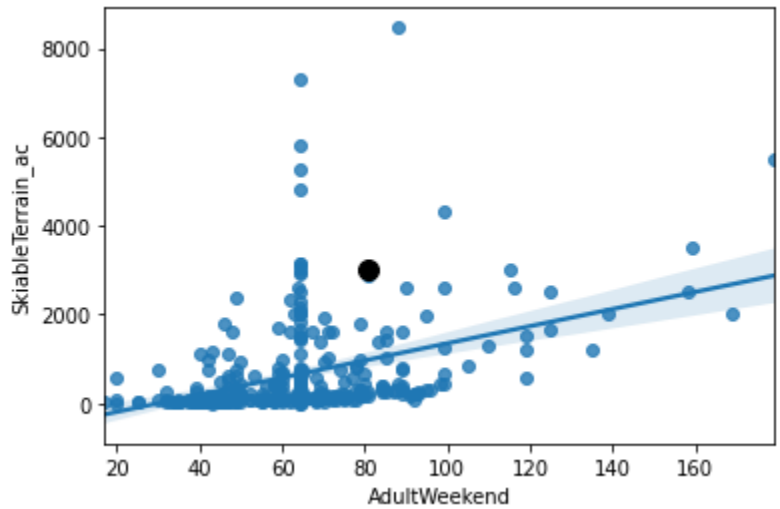
4. Used the features of Big Mountain and model 2 to predict the weekend ticket price and got the result of $83; used model 2 to predict the open days for this season and got the result of 130 days. Current weekend ticket price: 81 and days opened in last season: 123 days.

Data Visualization:

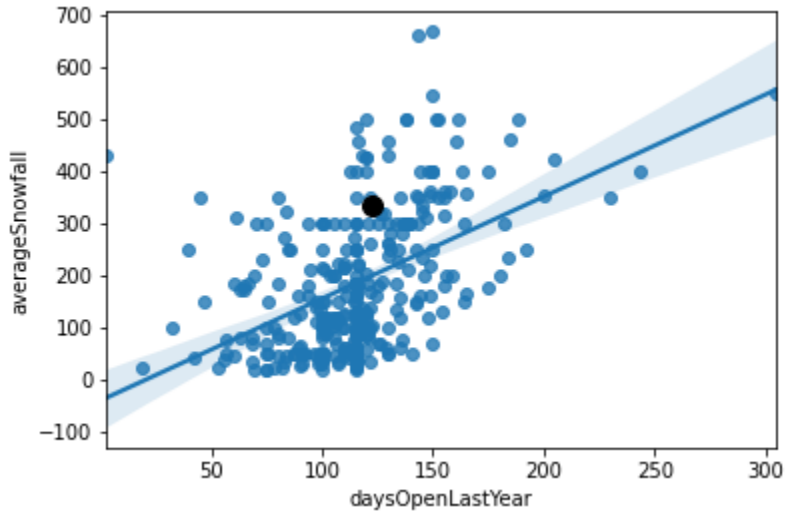
1. By comparing the number of runs with the other competitor resorts we can see resorts that have about the same number of runs as BIg Mountain has, normally price their weekenday ticket higher than $81.



2. By comparing skiable areas in the resort with other competitor resorts we can see some of the resorts that have about the same skiable area as Big Mountain has (or even slightly less than Big Mountain) price their weekend ticket price higher than $81.



3. By comparing average snowfall in the resort with other competitor resorts we can see some of the resorts that have about the same average snowfall as Big Mountain has (or even slightly less than Big Mountain) have longer open days than Big Mountain.



The prediction results:

- Our current weekend ticket price is cheaper than the recommended price from the model.
- Days open last year are less than the recommended days from the model.

Conclusion:

We would like to recommend management team to

- Increase our weekend ticket price to the price $89 (suggested by the model)
- Extend open days to the number 130 days suggested by the model, to efficiently increase the total revenue.