BIG MOUNTAIN SKI RESORT PRICE PREDICTION MODEL

PRESENTED BY :

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PROBLEM STATEMENT

• How much price needs to be increased by Big Mountain Ski Resort for Lift Tickets on Weekends and Weekdays in order to maintain a profit margin of 9.2% for the upcoming season, while covering additional operating cost of $1,540,000 for the newly installed chair-lifts?

BACKGROUND:

- **Big Mountain Resort has recently installed an additional chair-lift to help increase the distribution of visitors across the mountain. This additional chair increases their operating cost by $ 1,540,000 this season.**

- **Every year about 350,000 people ski at Big Mountain, this business profit margin is 9.2% and the investors would like to keep it there.**

- **The business wants the recommendations/strategy on recouping the increased operating costs from the new chair this season. And what approaches can be followed in order to achieve the goal.**

Resort's Current Pricing Strategy

- At present Big Mountain Resort pricing is mainly based on the market average. This strategy won't be enough to maximize their market capitalization investment and also cannot be long-lasting to gain an advantage over the competition.

RECOMMENDATIONS

- Our model suggests that Big mountain currently charges $81 and the price our model predicted is $94.22. Thus, the difference between the model price and the actual price is $13.22, and the resort has many scenarios for either cutting operating costs or increasing the ticket price by increasing vertical drop, adding acres snow making or by increasing the longest run

- Increasing the vertical drop by 150 ft would increase the ticket price by 10.44% from $81 to $89.46, resulting in revenue increase by $14,811,594.

- Adding 2 acres of snow making would increase the ticket price by 12% from $81 to $90.75, resulting in revenue increase by $17,068,841.

Adult weekend ticket price ($) distribution for resorts in market share

Vertical drop (feet) distribution for resorts in market share
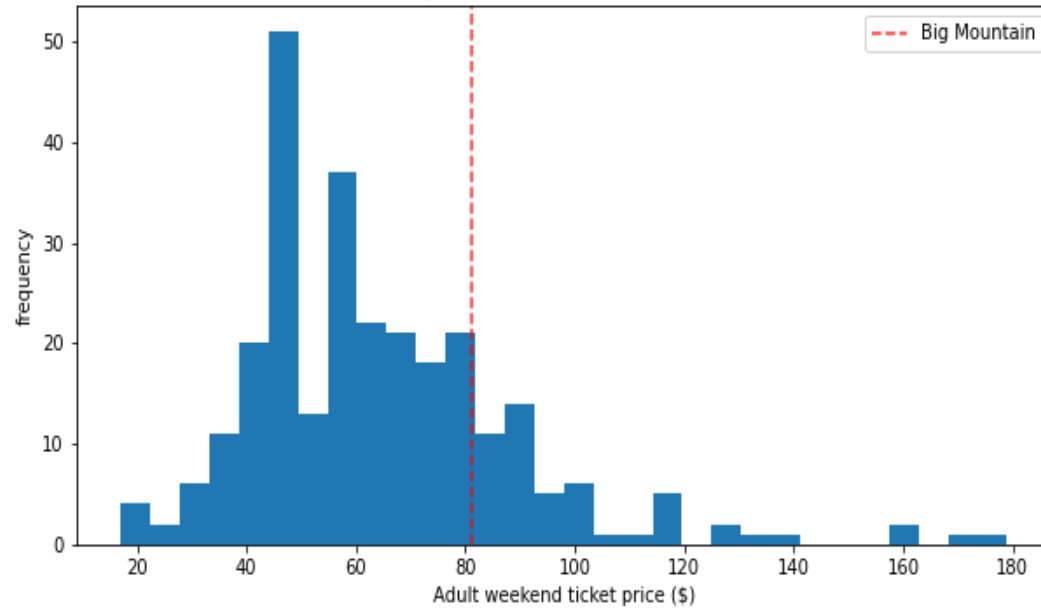
- **Big Mountain ticket price vs other resorts ticket price**
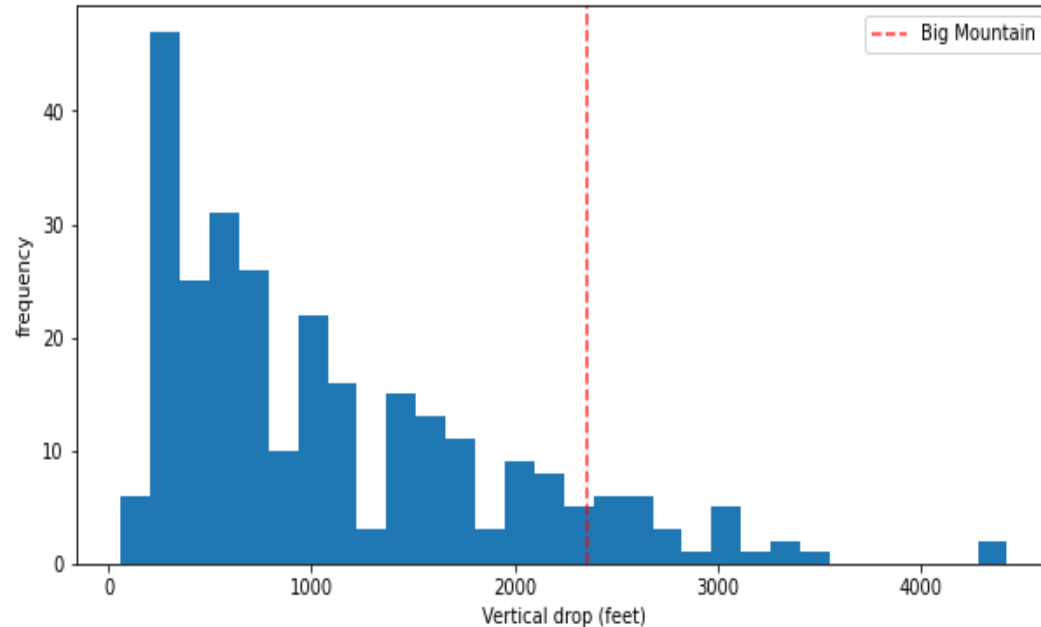
- **Big Mountain is doing well for vertical drop, but there are still quite a few resorts with a greater drop.**

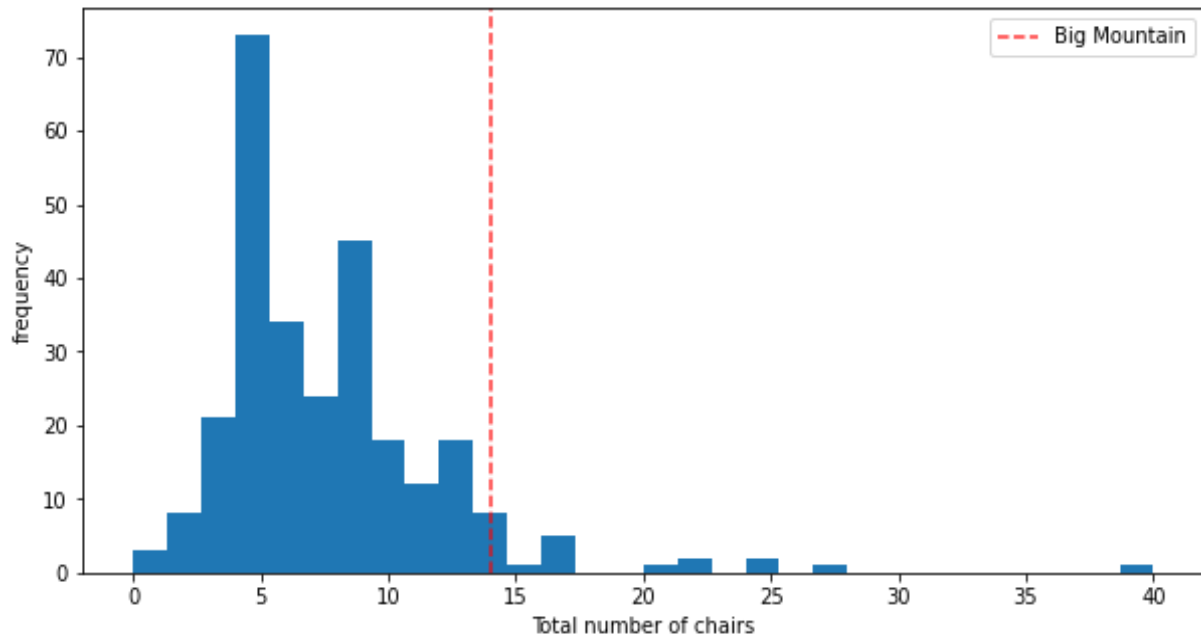Area covered by snow makers (acres) distribution for resorts in market share

Total number of chairs distribution for resorts in market share
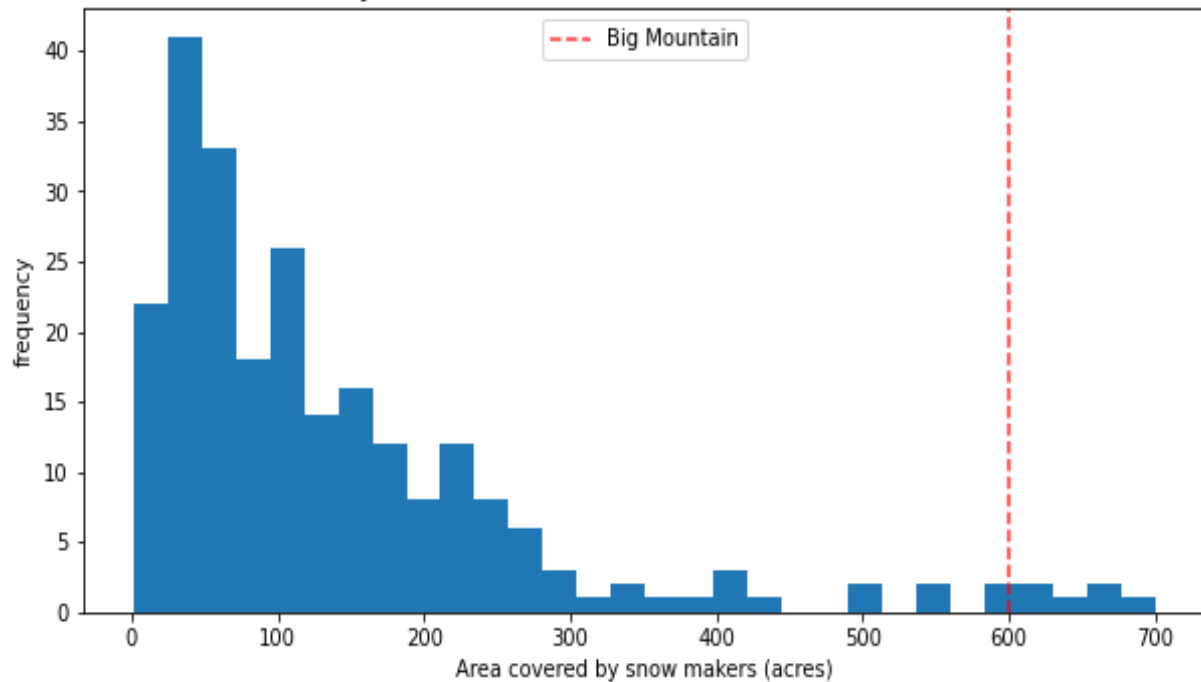
- **Big Mountain is very high up the league table of snow making area.**

- **Big Mountain has highest number of total chairs amongst all resorts resorts where more appears to be outliers.**

Total number of runs distribution for resorts in market share

Longest run length (miles) distribution for resorts in market share
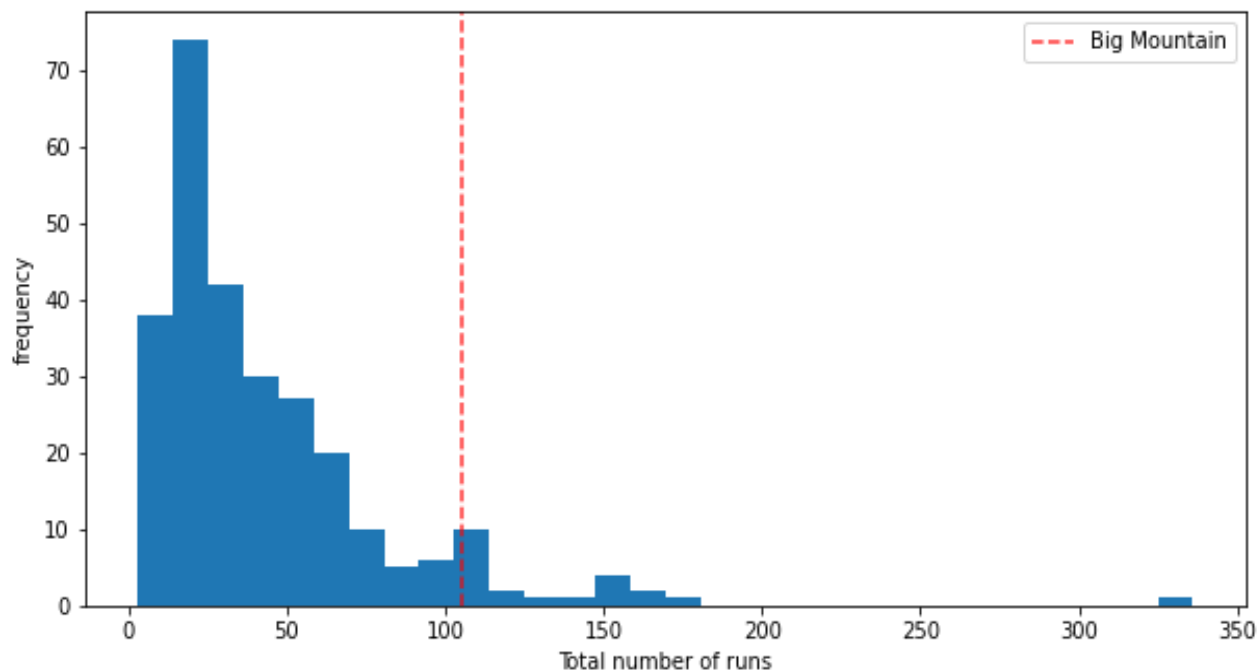
- **Big Mountain compares well for the number of runs. There are some resorts with more, but not many.**
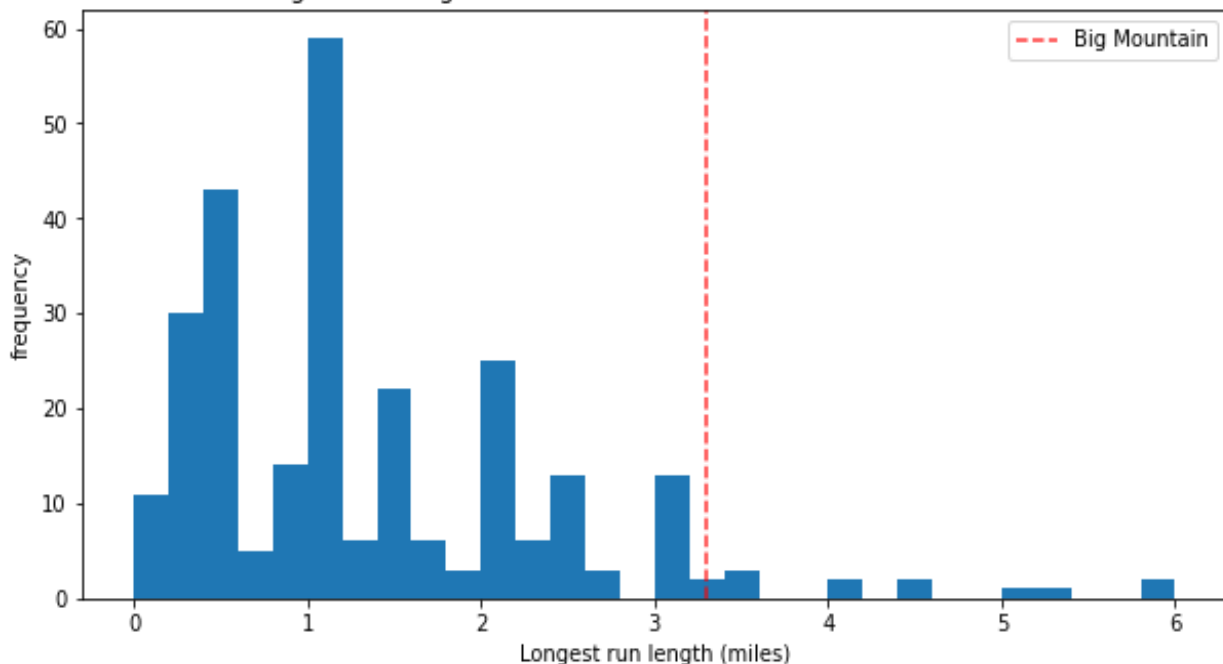
- **Big Mountain has one of the longest runs. Although it is just over half the length of the longest, the longer ones are rare.**

Main Data Source Limitation

Our main data source is missing some of the important information like:

- Weekdays ticket price and

- Operating costs of most of the resorts features (e.g. Runs operating cost is not provided)

Thus, in order for our model to provide a better price prediction it would be beneficial if we can get another source of data

1) Dynamic Pricing: Weekends vs Weekday ticket price

- **The one of the pricing strategy Big Mountain Resort could follow with this model is to develop a Dynamic Pricing strategy.**

- **Whereby having higher ticket prices during the weekends when they have higher number of visitors and a lower ticket price during the weekdays when they have fewer number of visitors in order to attract more visitors.**
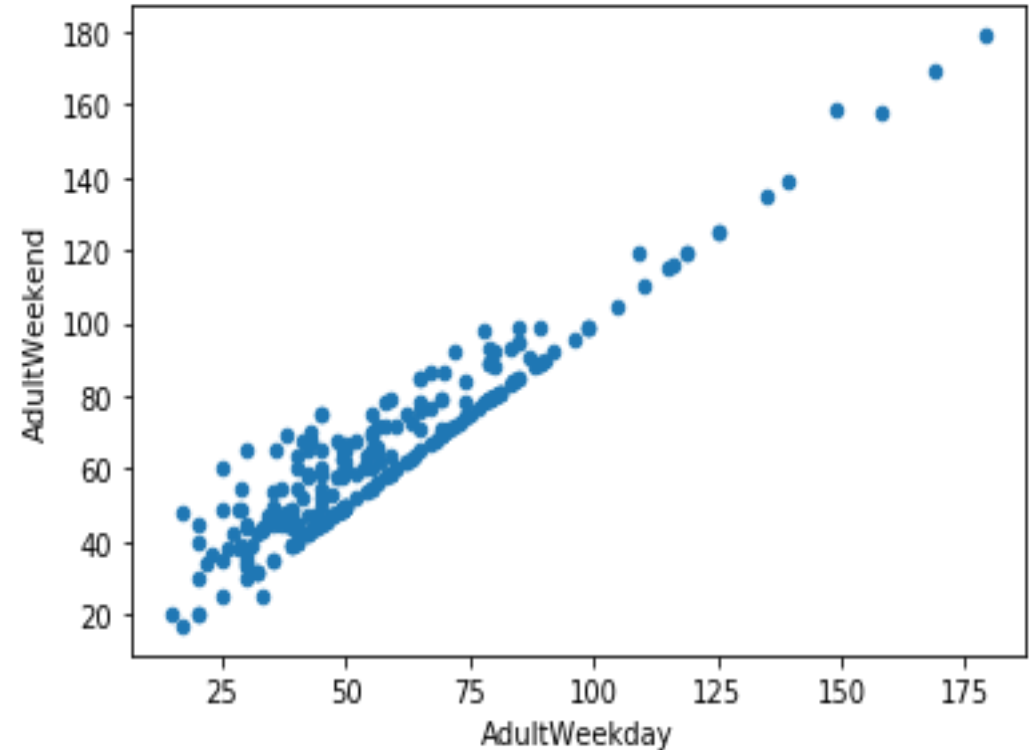

There is a clear line where weekend and weekday prices are equal. Weekend prices being higher than weekday prices seem restricted to sub $100 resorts.

We can see in the left of the figure that most of the resorts follows this Dynamic Pricing policy

2) Closing up to 10 runs vs Ticket price & Revenue

- **One of another scenario is to cut the operating costs by closing up to 10 of the least used runs.**

- **Model predictions for closing up to 10 runs :**
  - **Closing one run will have no impact on Ticket price or revenue.**
  - **Closing 2 runs reduce support for ticket price and so revenue by $0.4 and $750,000 respectively.**
  - **Closing down 3 runs, it seems they may as well close down 4 or 5 as there's same loss in ticket price and revenue by $0.67 and $1.250M respectively.**
  - **Closing 10 runs reduce support for ticket price and so revenue by $1.71 and $3M respectively**
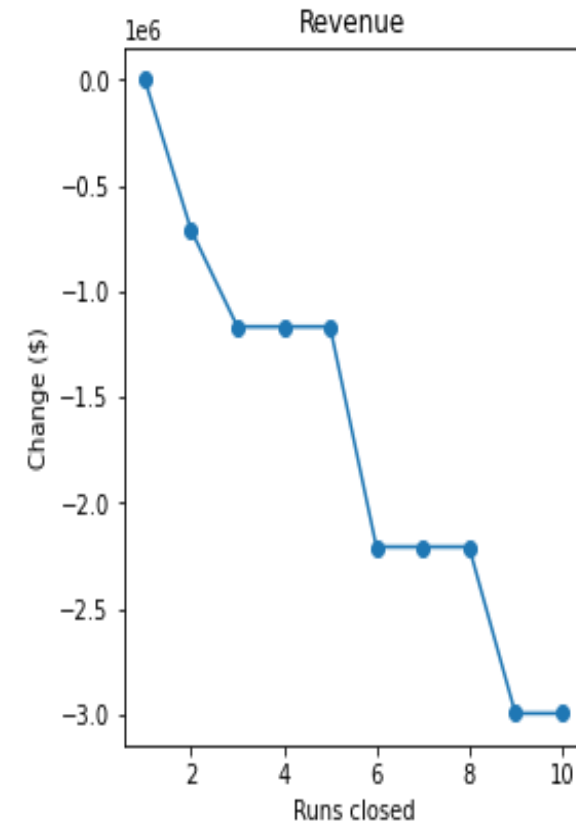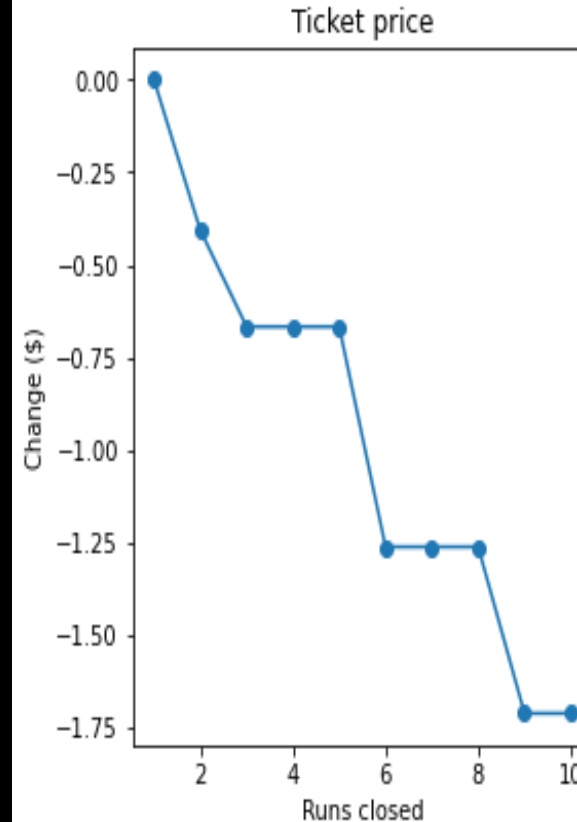
Since we do not know the operating cost per used run, we can't determine how much cost saving will be offset the loss in revenue after closing more than one run.

CONCLUSION

- Amongst all the scenarios the best one is where we managed to gain the highest revenue increase possible is by increasing the vertical drop by 150 ft, adding one Chair Lift, adding one run and adding 2 acres of snow making cover.

- This scenario has increased ticket price by 12% from $81 to $90.75, resulting in a bottom-line increase by $15,528,841 after deducting operating costs of $1.54M.

- Due to lack of data in regards of operating cost per used run and weekdays ticket price, our model cannot recommend closing down used runs or implementing a dynamic ticket pricing.

THANK YOU!