Big Mountain Resort

Problem Identification

- The purpose of this data science project is to come up with a pricing model for ski resort tickets in our market segment.
- Big Mountain suspects it may not be maximizing its returns, relative to its position in the market.
- It also does not have a strong sense of what facilities matter most to visitors, particularly which ones they're most likely to pay more for.

- This project aims to build a predictive model for ticket price based on a number of facilities, or properties, boasted by resorts (*at the resorts).*

- This model will be used to provide guidance for Big Mountain's pricing and future facility investment plans.

Recommendation And Key Finding

- The business needs some guidance on how to select a better value for their ticket price.

- The business needs a number of changes that they hope will either cut costs without undermining the ticket price or will support an even higher ticket price.

Modeling The Results And Analysis

- We took our model for ski resort ticket price and leveraged it to gain some insights into what price Big Mountain's facilities might actually support as well as explore the sensitivity of changes to various resort parameters.

- We used our model to gain insight into what Big Mountain's ideal ticket price could be, and how that might change under various scenarios.

- We refited the model using all available data, but should we include Big Mountain data.

- Next, we trained a model to predict Big Mountain's ticket price based on data from all the other resorts! We didn't want Big Mountain's current price to bias this.

- We defined a custom functions for visualizing data in meaningful ways in market context using some features that came up as important in the modeling.

- Ticket price is not determined by any set of parameters; the resort is free to set whatever price it likes.

- There is no difference whatsoever. Although the longest run feature was used in the linear model, the random forest model (the one we chose because of its better performance) only has the longest run way down in the feature importance list.

Summary And Conclusion

Big Mountain resort operates within a market where people pay more for certain facilities, and less for others. It has been reviewing potential scenarios for either cutting costs or increasing revenue.

1. Increasing the closures down to 6 or more leads to a large drop.
2. Big Mountain is adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift.
3. Such a small increase in the snow making area makes no difference!
4. Increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability, made no difference.