Big Mountain Resort Report

The Business Issue

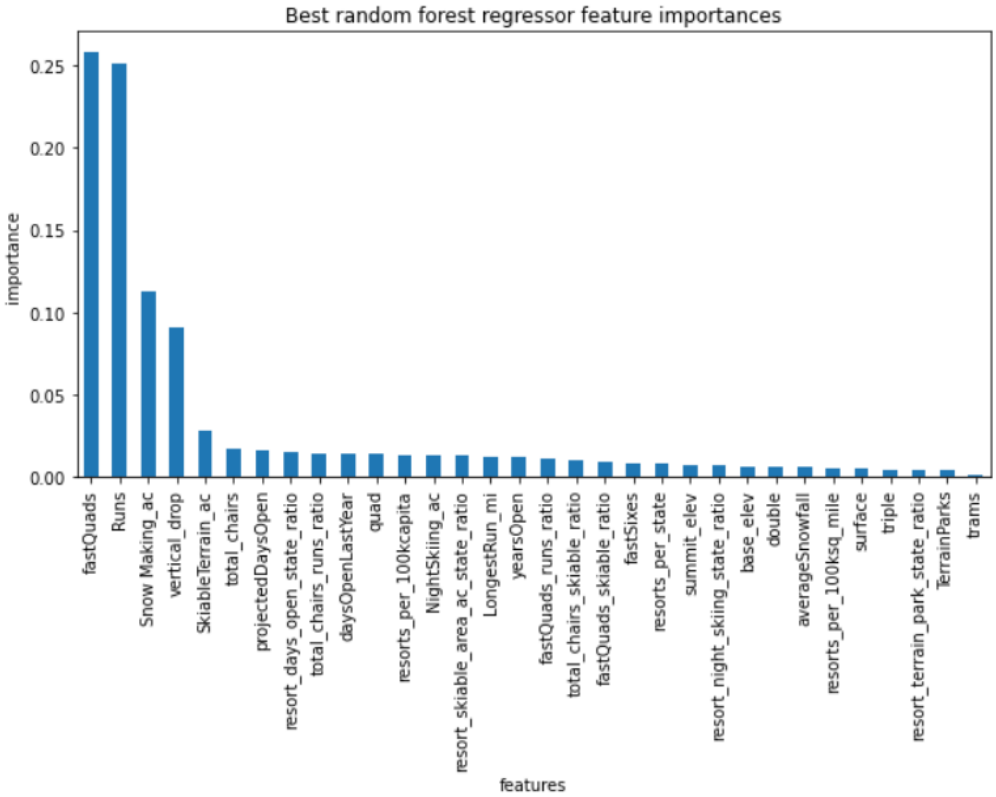
The purpose of this data science project is to come up with a pricing model for ski resort tickets in our market segment. Big Mountain suspects it may not be maximizing its returns, relative to its position in the market. It also does not have a strong sense of what facilities matter most to visitors,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

The Data

The ski resort data has info about 330 resorts in the US. The data set has 27 features. Two of the features are about weekend and weekday ticket prices and the rest of them give information about facilities in the resorts.

The Analysis

We use the random forest regressor to select features that are affecting resorts' prices most.



The dominant top four features that have over %80 effect on ticket price are below.

- fastQuads
- Runs
- Snow Making_ac
- Vertical drop

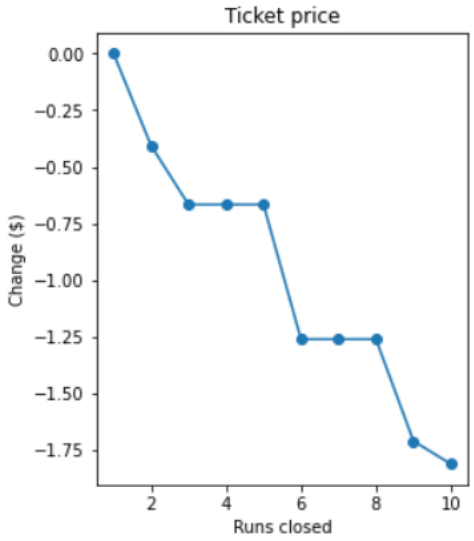
The Result

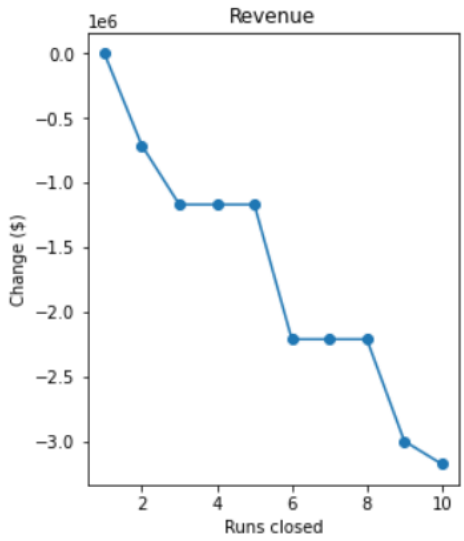
Big Mountain Resort has been reviewing potential scenarios for either cutting costs or increasing revenue (from ticket prices). Based on our model, there are four possible scenarios.

The business has shortlisted some options:

1. Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
2. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage
3. Same as number 2, but adding 2 acres of snow making cover
4. Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

When we look at the last three scenarios, we can see that they do not have any effect on increasing revenue. But when the company permanently closes down up to 10 of the least used runs. This doesn't implant any other resort statistics.





You can see in the graphs. The model says closing one run makes no difference. Closing 2 and 3 successively reduces support for ticket price and so revenue. If Big Mountain closes down 3 runs, it seems they may as well close down 4 or 5 as there's no further loss in ticket price. Increasing the closures down to 6 or more leads to a large drop.