Guided Capstone Projects

Models and Assumptions

Based on the previous analysis, several assumptions are made for the model:

- Category features such as states are not considered in the model, all the resorts are treated as induvial observations
- The predictive model is fitted to "Adult weekend price" only due to its high correlation with "Adult weekday price"

Random forrest tree is selected as final model shown in Fig.1 , four features are considered as top important features to predict ticket price, which are

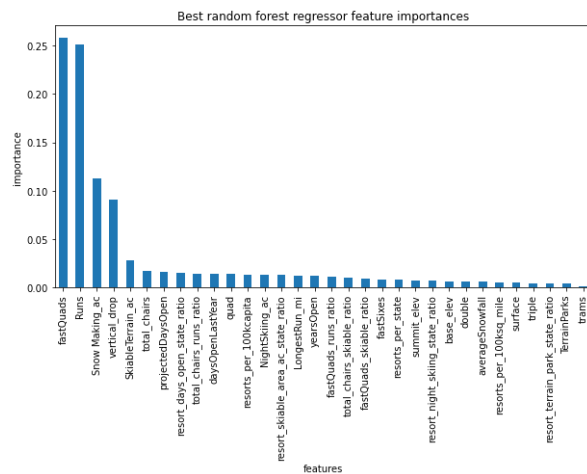- vertical_drop fastQuads
- Runs
- Snow Making_ac
- vertical_drop

Fig.1 Ranking of feature importance in random forest regressor

Recommendations

The recommended ticket price for BIG Mountain resort is $96, the models suggest increase the ticket price due to the fact that big mountain sits high in the facility features which weight most for the ticket price while the ticket price sits in the median range as shown in the following figures.
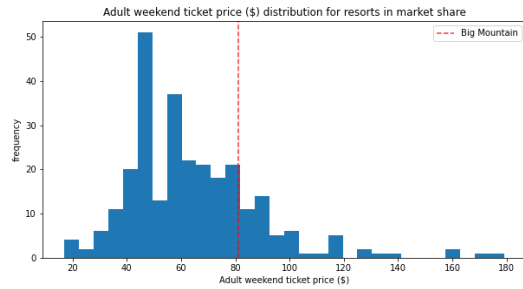
Fig. 2 Adult weekend ticket price distribution for all the resorts in market share
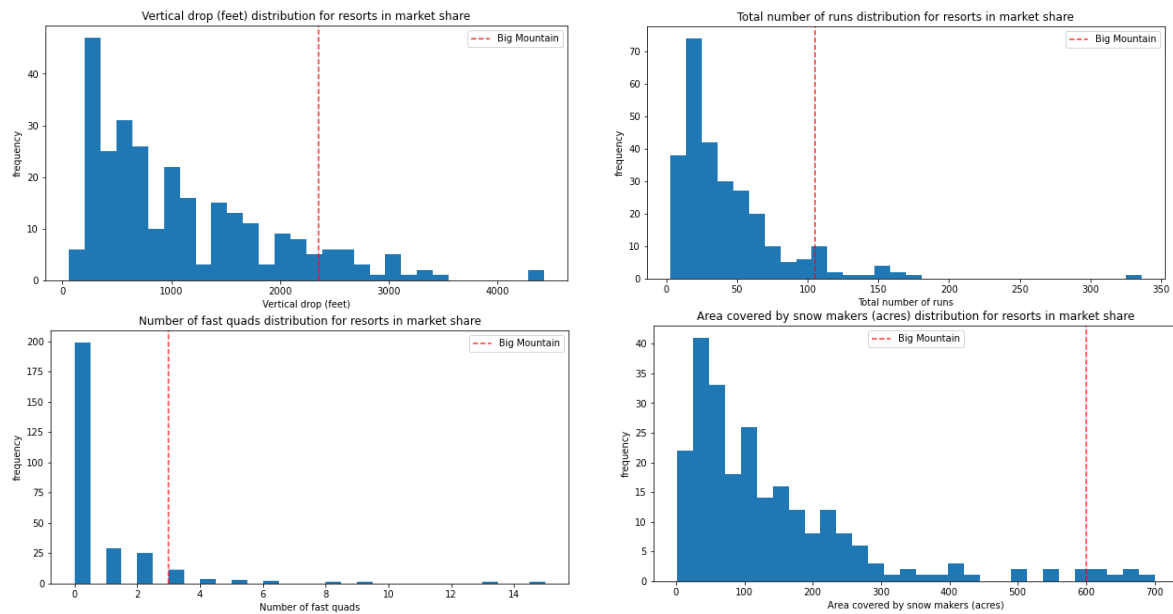

Fig.3 distribution of top 4 important features among all the resorts(vertical dash line shows the value of the specific feature for Big Mountain)

In addition, the following gives a short list for impact of facility modifications on ticket price:

1) Close the runs
   The model shows it has no impact on revenue and ticket price when closing only one run. The revenue and ticket price reduce as more runs are closed
   Further reduction for the runs down to 4 or 5 affect little on ticket price. However, increasing the closures down to 6 or more leads to a large drop.
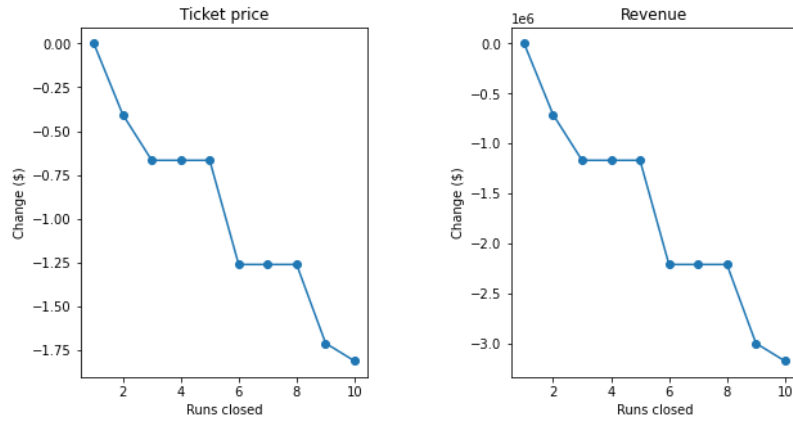
2) Adding vertical drops:
   Addition of vertical drop by 150 ft would increase ticket price by $1.99. Over the season, the revenue increases $3,48M

3) Increase snow making
   Snow_making less than 20 acre would have no impact on the price and revenue growth