

SKI RESORTS ANALYSIS

Executive: Big Mountain Resort has much more facilities than its competitors in the Montana region. There are 4 scenarios to increase the revenue of Big mountain resort.

Scenario	Impact
Close 10 least used Runs of the resort	Closing 1 will not affect ticket price but more than that would ask the company to take a dip in ticket price and in turn revenue.
1.) increase vertical drop by 150 feet. 2.) installing an additional chair lift. 3.) Add a new Run	Supports an increase of \$8.61 on current ticket price which helps an increase in revenue of more than \$15 million.
Same as above with addition of the following. 4.) Add 2 acres of snow making.	Supports an increase of \$9.90 on current ticket price which helps an increase in revenue of more than \$17 million.
1.) Increase Longest run by 0.2 miles. 2.) Increase snowmaking area by 4 acres	No Impact

Introduction: Big Mountain Resorts, a ski resort located in montana. It is a premium resort with spectacular views of Glacier National park and FlatHead National Forest and nearly 350k people ski here yearly. Adding to these, it has 11 lifts, 2 T-bars and a magic carpet with base elevation of 4,464ft.

Background: Big Mountain Resorts want to increase their revenue in the span of a year (Dec 2021) to meet the new expenditure on installing new chair lift by altering the resort's pricing strategy. Either by undermining pricing to market segments and attract more visitors or increase ticket prices.

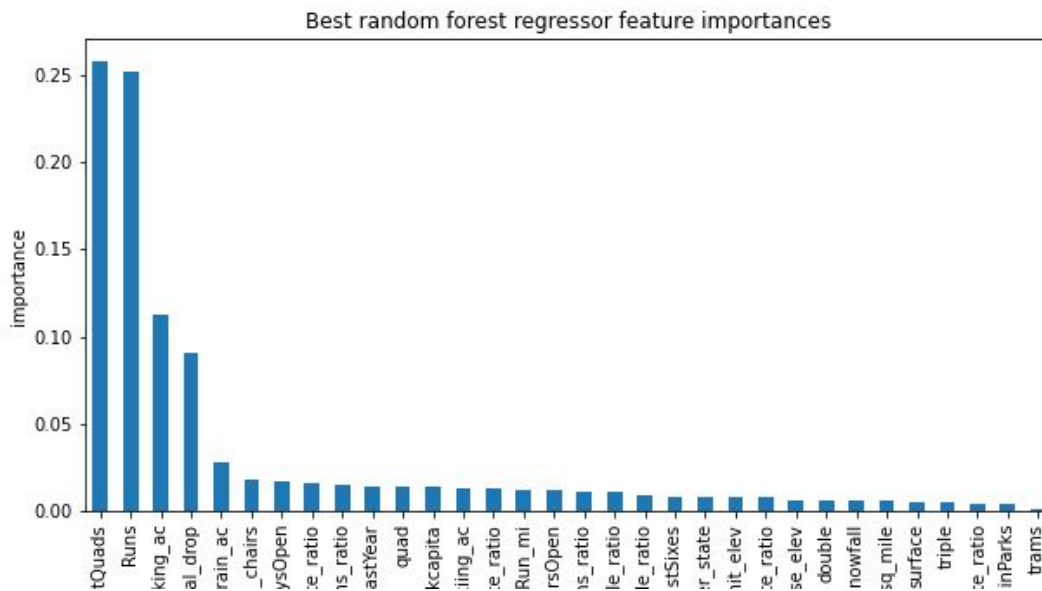
Limitations: Asking the customers to pay a premium price when compared to other competitors in the market can be a potential threat if we are not showing any USP to customers. Because there's already a word out about resort not utilizing the location advantage that it has over other competitors.

Also, we are running on an assumption that ticket prices of all resorts in the data are subjected to the features that it has and none of the external features like brand value etc., are not considered.

Questions: What are the key features that affect the ticket price of a resort?
Which correlation is maintained by predictors with dependent variable?
Is there a duplication of columns that can be removed for modeling?
What type of modeling is best?

Methods: Made use of 2 Machine learning algorithms namely LinearRegression and RandomForestRegressor after Imputing the columns with median values and standardising the column values. It was discovered that decision tree algorithm (RandomForestRegressor) was more efficient with a mean absolute error of \$9.

Results:



After checking the importance graph above against independent variables. It is known that tQuads,Runs,vertical drop impact ticket prices a lot.

Recommendations: Having this in mind it is better to take scenario -2 mentioned in executive to see better revenue.