**Big Mountain resort analysis on revenue increase**

We have reviewed very important features of big mountain resort in relative to 329 resorts in US market and did analysis of those features to predict their impact on ticket price. Those features which have a very strong correlation with ticket price, are Runs, fastQuads, vertical\_drop, total\_chairs, Snow Making\_ac.

Features Correlation map

A picture containing clock

Description automatically generated

Based on our Linear regression model, vertical\_drop is the biggest positive factor, which is consistent with EDA results. But according to Random Forest model fastQuads and Runs features are at the top.

Business reviewed results of modeling and gave some options to increase revenue and keep profit margin:

* Scenario-1: Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
* Scenario-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.
* Scenario-3: Same as number 2, but adding 2 acres of snow making cover.
* Scenario-4: Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres.

Out of those 4 options, scenario 3 and 4 does not change revenue, so no need to make effort and additional expenses, option 1 works other way around by decreasing ticket price. Best option to keep resort`s profit margin is #2, which increases price by just only $1.99 but at the same time increase revenue by $3,474,638.