Big Mountain Resort Price Report

16th February 2023

Our client Big Mountain Resort historically has resorted to simply charging a premium over the market average, and is now moving towards a data-driven ticket price that considers its own value in relation to many factors that contribute to the revenue of the given hundreds of resorts.

With a data supported business strategy below - I will recommend increasing ticket price at least 18%, increasing revenue next season $24,500,000, with market data supporting our premium facilities versus competitors.

From 27 data features and 330 resorts, we removed any features and resorts missing important data to the modeling (such as both day and weekend prices), or too many resorts all missing a feature (such as fastEights). After all the data wrangling I end with 22 numerical features and 277 resorts including Big Mountain Resort.

A few features showed potential for high correlation with ticket price, including ticket price versus runs (figure 1), vertical drop, total chair lifts, longest run, and snow making.

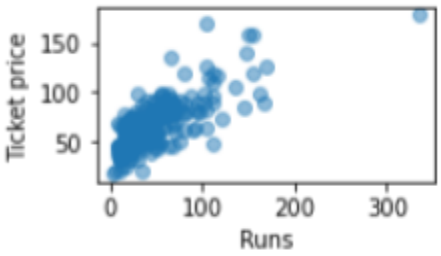

Figure 1. High correlation shown between Ticket Price vs. Runs

Starting with splitting the data into 70% training, 30% test data - then algorithms to build the model (including mean, Mean Absolute Error, Mean Squared Error); I found a random forest regression model to be more consistent in predicting the best pricing by over $2, compared to a linear regression model.

It's important to highlight where Big Mountain Resort lies in relation to the other 276 resorts (figure 2), specifically the features noticed earlier with potential high correlation to ticket prices.

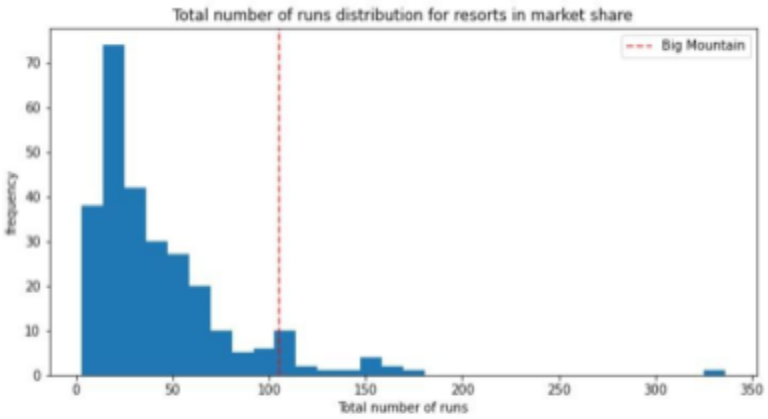

Figure 2. Big Mountain Resort 92nd percentile regarding number of runs

Big Mountain Resort is in the top 16% of all resorts in the features of highest importance to predict ticket prices; 94th in fast quads, 92nd in number of runs, 84th in snow making acres, 89th in vertical drop. Other features of importance in relation to ticket price decrease even after number of runs, and sharply drop off after the 4th most important feature- vertical drop (figure 3).

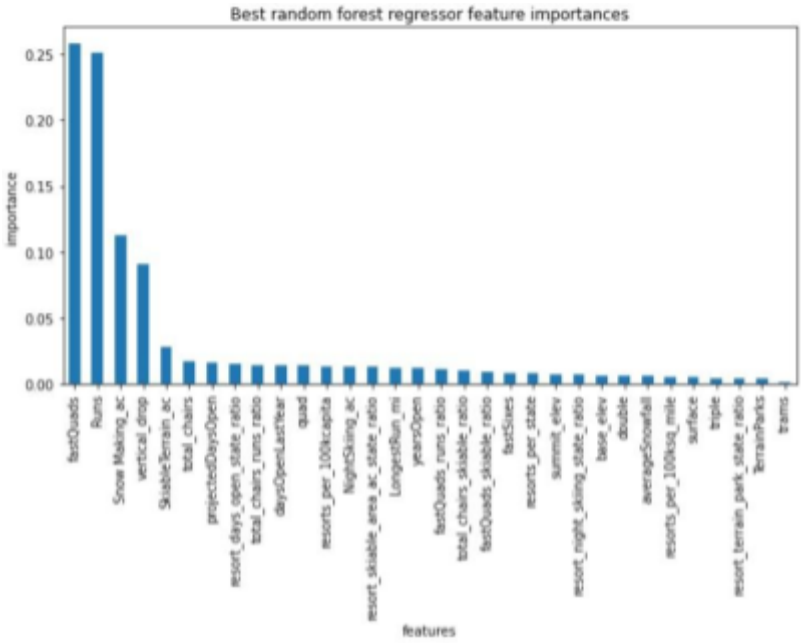

Figure 3. The top four features account for over 70% of the model's importance in predicting resort prices.

While in price Big Mountain lies at the 81st percentile, the fact that our client's resort dominates in the areas of utmost importance for ticket prices means we see data supporting an increase in Big Mountain's ticket prices to increase revenue without undermining their premium features in comparison to other resort's.

Without changes to snow making acres, longest run, or closing more than 1 run at a time; I **recommend increasing ticket prices to at least $95.00, increasing revenue over $24M.**

While looking into cost cutting with closing up to 10 runs, ticket prices can still be increased to $94.00 (figure 4). Alternatively, adding a run, adding a chair lift, and increasing vertical drop 150 feet will support another $8.61 increase in price, increasing revenue over $15M.

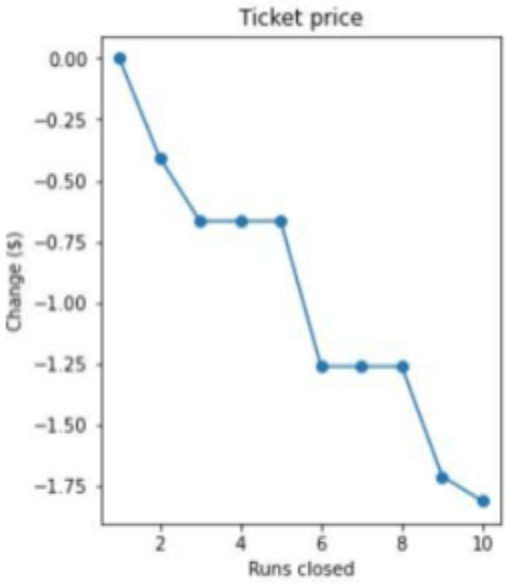

Figure 4. Change in ticket price vs. runs closed