# Big Mountain Resort Price Modeling

Aims

What changes can Big Mountain Resort make to price lift tickets appropriately?

Methods

A linear regression and random forest model were trained on provided resort data and compared using cross-validation. The random forest model was selected due to its performance and features ranked in importance are shown below.


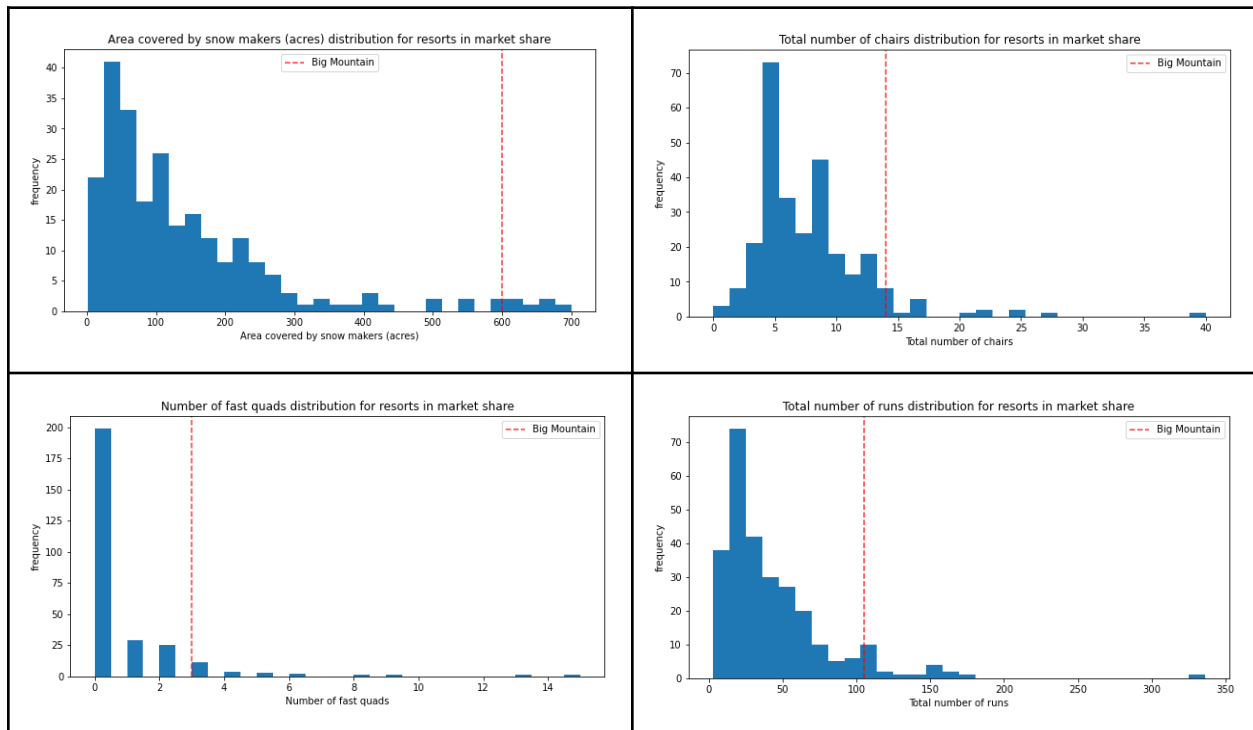Best random forest regressor feature importances
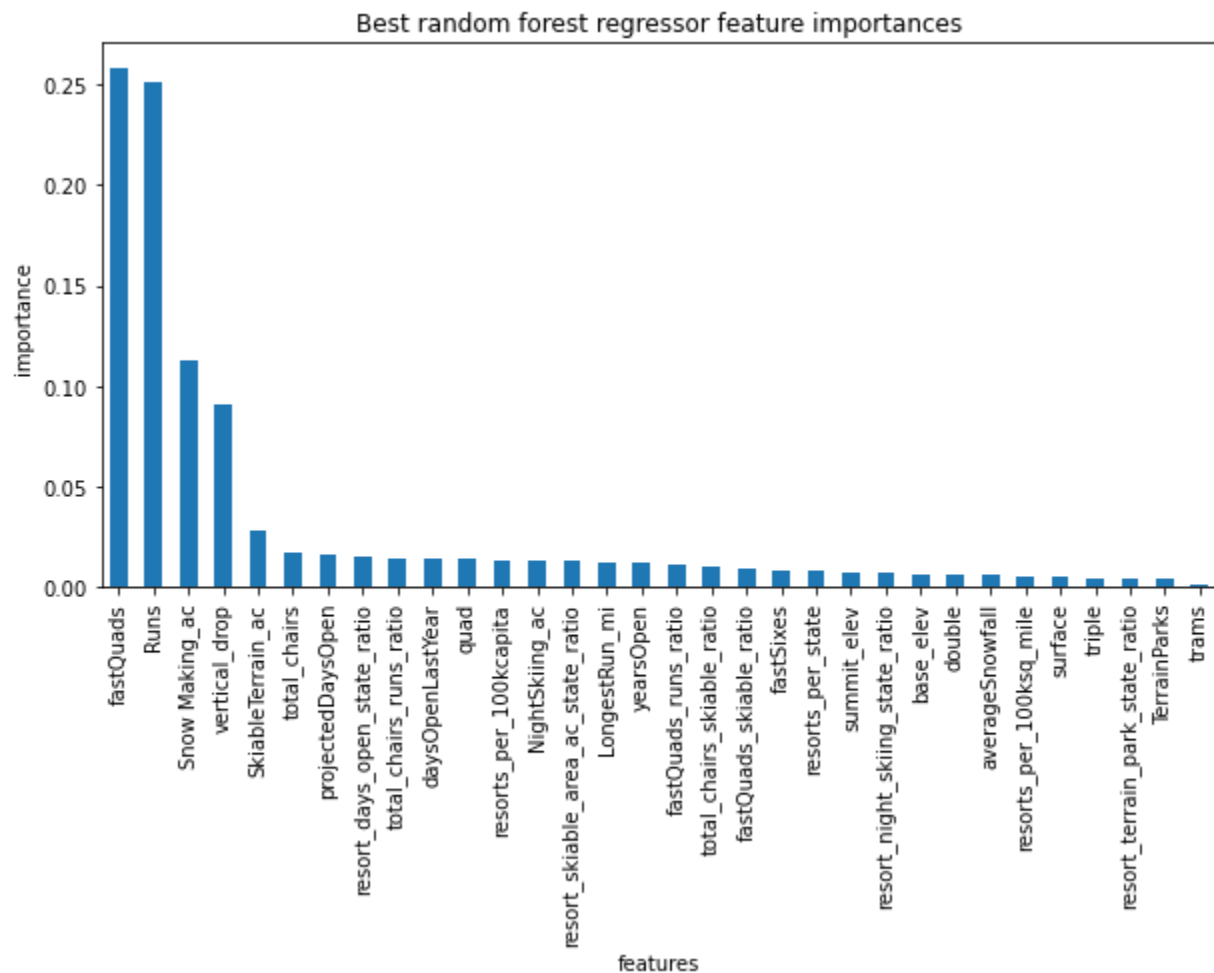
Results

When initially comparing pricing and facility data, Big Mountain Resort is not overly expensive when comparing all resorts.

Adult weekend ticket price ($) distribution for resorts in market share
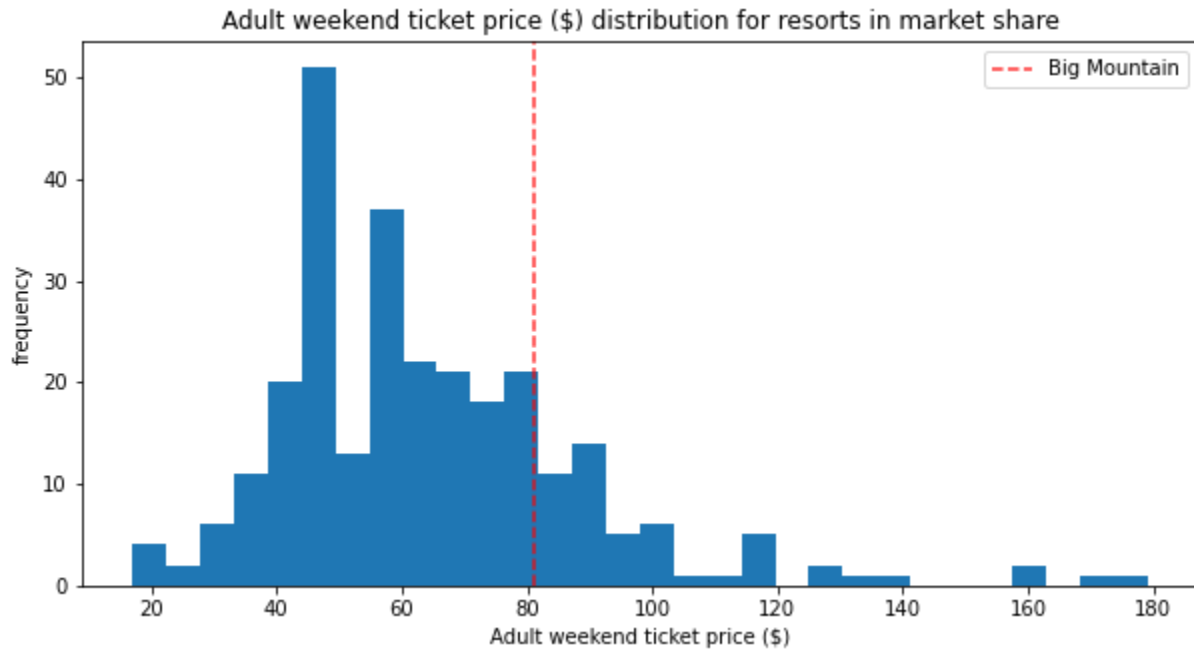
However, when looking at the local market specific to Montana, it is on the high end of pricing already.

Adult weekend ticket price ($) - Montana only distribution for resorts in market share
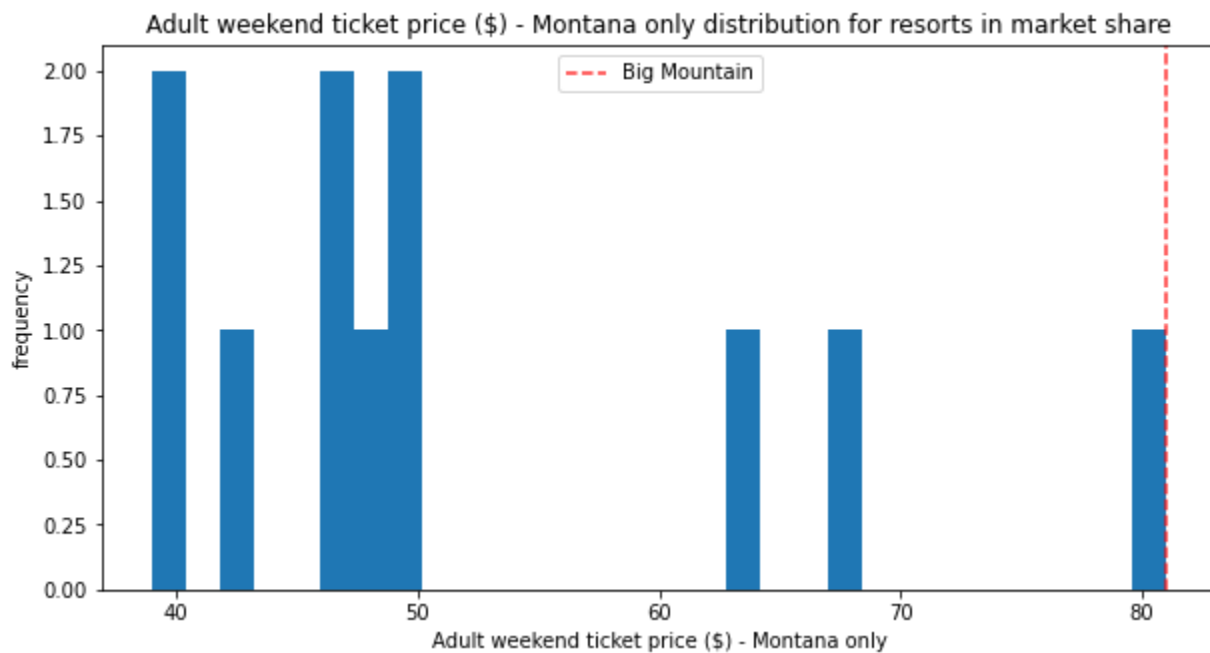
Despite this fact, Big Mountain Resort also sports among the best facilities across all resorts. These benefits should come at a price premium compared to competitors and the model suggests that a price of ~$95 is supported by the added value.

Area covered by snow makers (acres) distribution for resorts in market share / Total number of chairs distribution for resorts in market share / Number of fast quads distribution for resorts in market share / Total number of runs distribution for resorts in market share

Conclusion

Big Mountain Resort should increase prices to 95$ to widen their margin. Additionally, they can open 1 run that increases vertical drop by an additional 150 feet and install 1 chair to access this terrain for a price increase of $1.99 to cover the investment cost. This would generate an additional $3,474,628 in revenue over the course of a season.