

Pricing Recommendations for Big Mountain Resort

Problem:

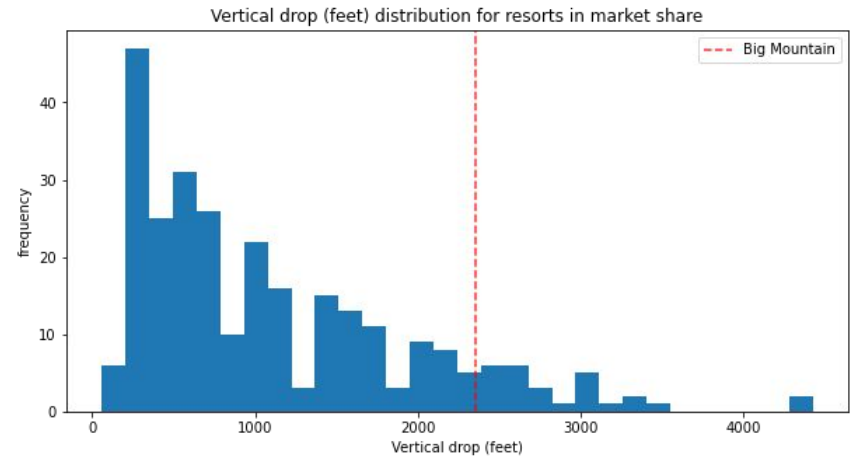
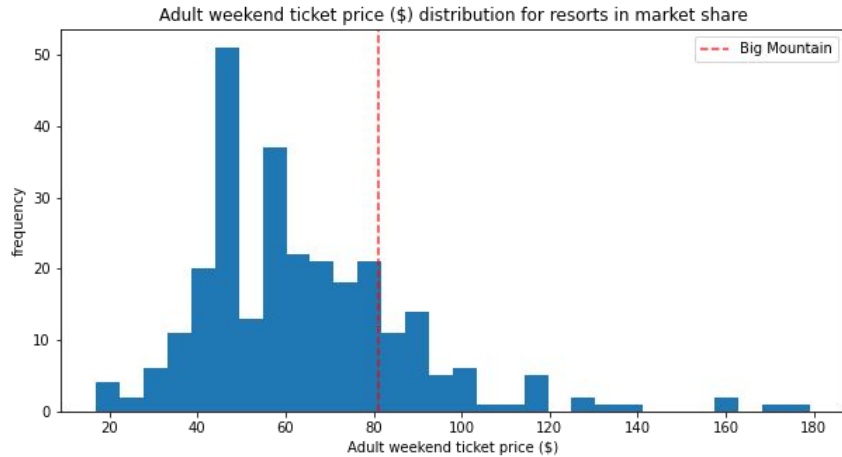
- Big Mountain Resort (BMR) has added a new chairlift at a cost of \$1.5m
- Given the current ticket price is \$81 per adult - BMR needs to find a way to increase revenue to cover this added cost
- Executive team is unsure of BMR's pricing relative to what it offers skiers and the pricing of other resorts in its market segment.

Objectives:

1. Using the data set on BMR's market segment, develop an accurate pricing model to identify what BMR's ticket price should be **currently**.
2. Using the same model, predict the ticket price if BMR were to implement one of the suggested scenarios as an option to increase revenue.

Recommendations:

BMR sits at the top end of its market segment for both value and price:

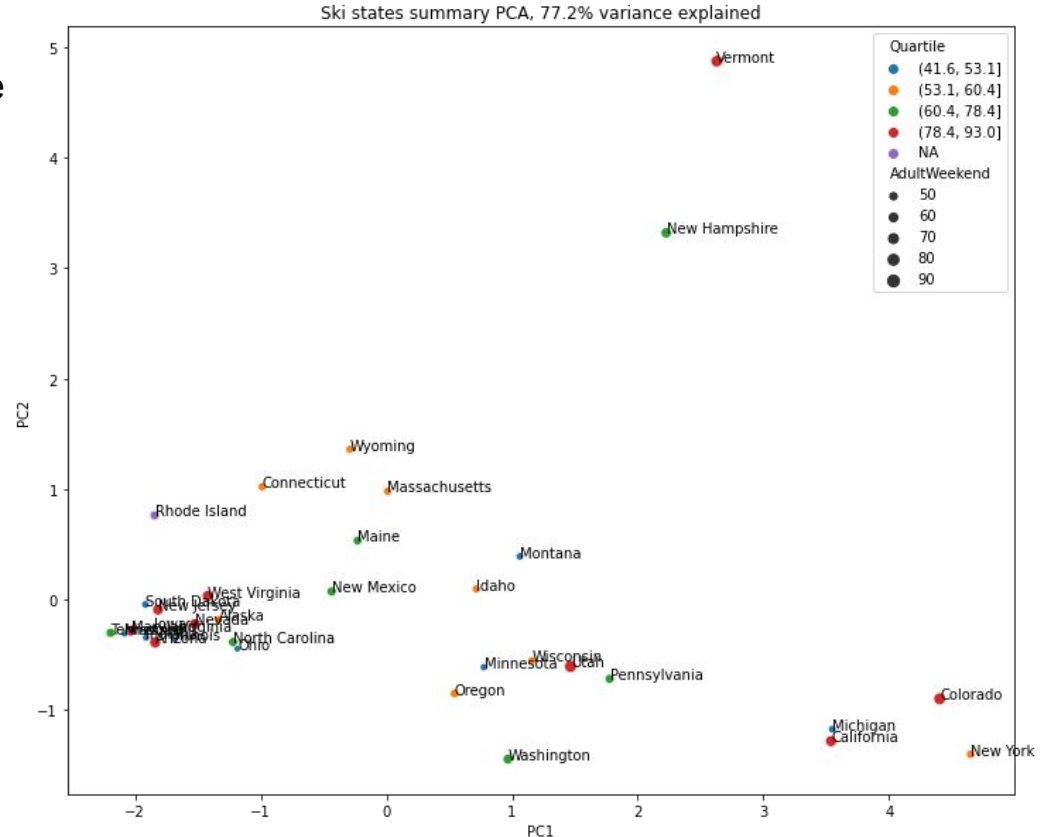


Recommendations:

1. Increase pricing by \$4.48 per ticket with no further changes, annual revenue increase of \$7.8 million
2. Do not close runs, closing up to 10 runs will decrease ticket price by \$3 and result in significant revenue loss without a significant drop in operational costs
3. Adding length to BMR's longest run has zero impact on ticket value.
4. Future investment in adding a chairlift and run to increase vertical drop by 150 feet could significantly lift ticket prices (\$8.61-\$9.90 depending on snow making capabilities), resulting in a net revenue increase of up to \$17.8m.

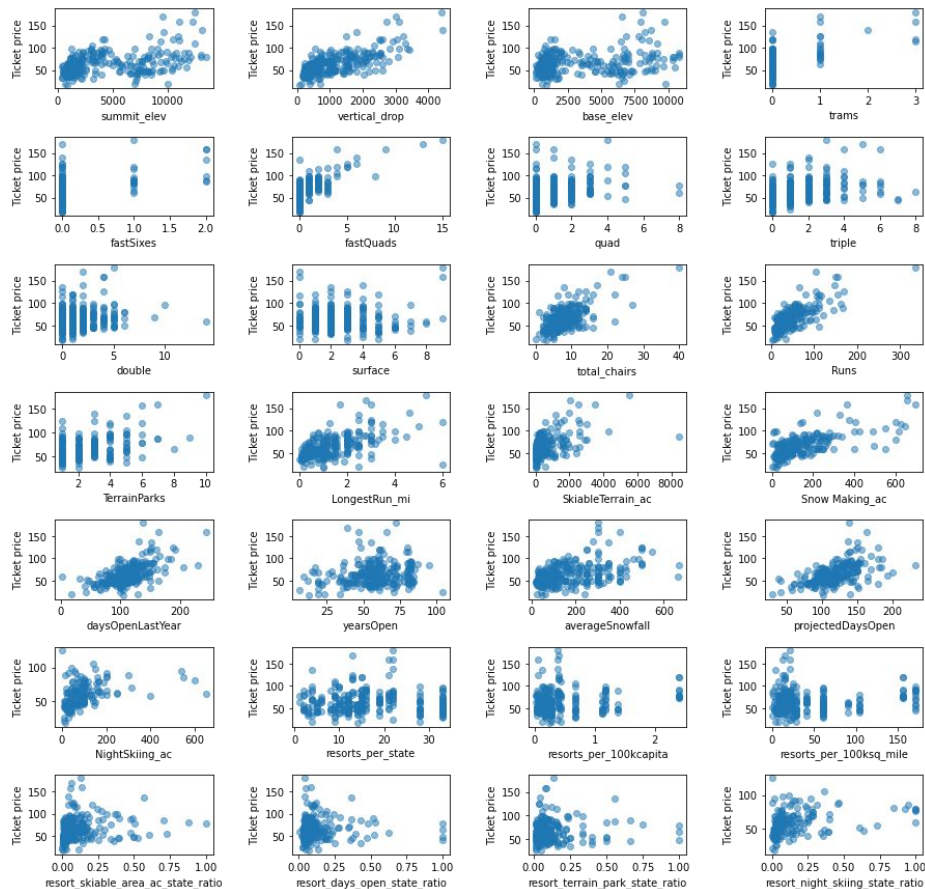
Modeling & Analysis

- Initial analysis demonstrates that there are two components that impact the average price per state - resorts per 100k capita and per 100k sq. miles.
- This shows that the average price in MT, while somewhat varied from other states, is by no means an outlier
- This trend was not borne out on individual resort pricing however.



Modeling & Analysis

- Further analysis on individual resort ticket pricing demonstrates that there are several features closely correlated with price: **# of Runs, Total Chairs, Vertical Drop, and Fast Quads**
- It's notable that the % of a state's night skiing that a resort has is also highly correlated with price.
- Additional features seem to be correlated closely as well: **Snow Making acres, Longest Run, Night Skiing, and Skiable acres**



Modeling & Analysis

- Following initial analysis I built several pricing models to assess them for accuracy
- The primary metric used to assess accuracy was *Mean Average Error* - the dollar amount that the model was able to predict a resorts ticket price to within.

Mean Ticket Price	Linear Regression Model	Random Forest Model
MAE: \$19.13	MAE: \$11.80	MAE: \$9.54

Summary:

- With no further changes BMR can increase the ticket price by up to \$4.48 to better align with market value of BMR's features, resulting in an annual revenue increase of \$7.8 million.
- Adding to Vertical Drop, # of Runs, Total Chairs, and # of Fast quad chairs is the best way for BMR to add value to their tickets in future.
- Increasing night skiing relative to other resorts in Montana could also increase the potential ticket price significantly.

Further action:

1. Assess non-operational actions that could increase revenue such as marketing to bring in more visitors for example.
2. Assess customers' behavior when choosing a resort. The model allowed for a ticket price increase to \$95, and there's potential to do so given BMR's position in the national market.
3. Bring in information on costs of various changes to assess if the revenue increase from different scenarios would be cost effective.
4. Similarly, the ticket price drop from closing runs *could* result in a net profit increase if the operational cost of maintaining those runs was greater than the decrease in ticket price.