Springboard Guided Capstone

Ski Resort Pricing model

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Problem Statement

Build a pricing model for Big Mountain ski resort ticket price such that the revenue in the upcoming season will increase at least by $2 Million.

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1 Context

A new chair lift has been installed in the ski resort which increased the cost of operation by $1.54 Million. Hence, we need to build pricing model which suggests appropriate ticket prices to make up for this cost and also suggest what facilities to invest in future to attract more customers.

2 Criteria for success

Increase the revenue in upcoming season by a minimum of $ 2 Million. Visitors should not be disappointed by the changes made to facilities at the resort.

3 Scope of solution space

Figure out what facilities matter most to the visitors. Identify which facilities we can get rid without affecting the ticket price and also what facilities to improve which justify a higher price and hence this pricing model should guide the future investment strategy of this resort.

4 Constraints within solution space

1) **Increasing the ticket price might have a negative impact on the visitor numbers.**
2) **Not all the visitors are going to like the changes made to the facilities.**

5 Stakeholders to provide key insight

1) **CEO**
2) **Chief Financial Officer**
3) **Chief Marketing Officer**
4) **Vice President - Hospitality, Retail & Real Estate**
5) **Chief Information Officer**

6 Key data sources

1) **Provided csv file**
2) **State data from Wikipedia**

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Recommendations and Key Findings

Pricing model suggests that a ticket price to be anywhere between $83.83 to $90. This more than make up for the cost of operation of the new chairlift, which comes to $0.88 per ticket.

The model also says the following about potential scenarios for cost cutting or increasing revenue :-

1. Permanently closing down up to 10 of the least used runs :-
   Not recommended, closing just one least used run does not affect the ticket price, but closing more impacts it negatively.

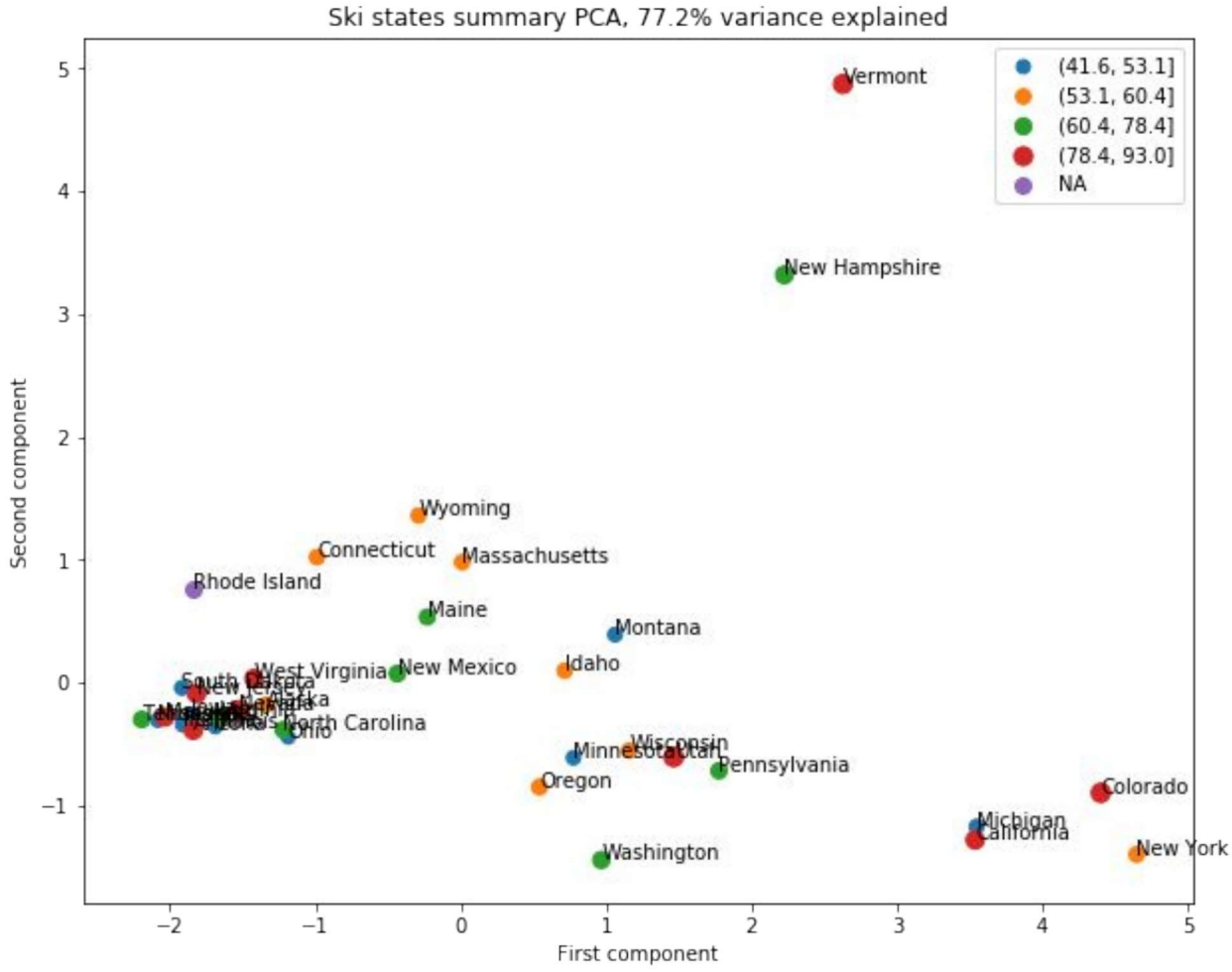
2. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage :-
   Support increasing the ticket price by $1.99

3. Same as number 2, but adding 2 acres of snow making cover :-
   Again Support increasing the ticket price by $1.99, so just adding 2 acres of snowmaking does not make much difference.

4. Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres :-
   Not recommended, these changes do not support increasing the ticket price.

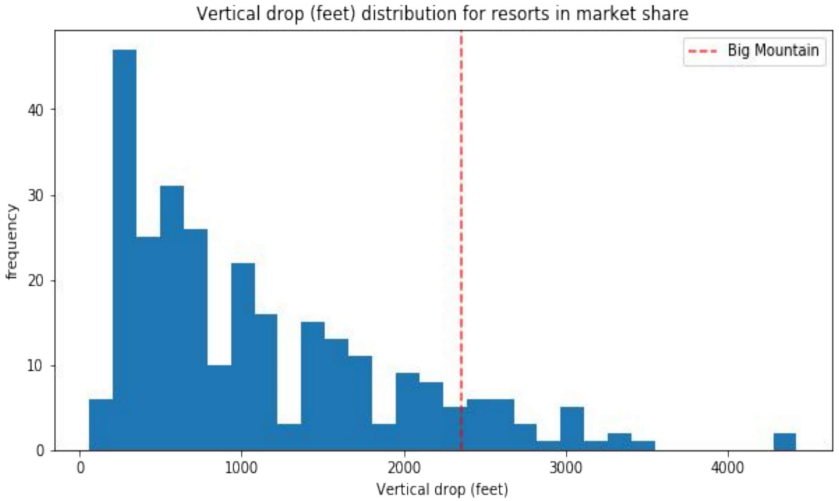
Modeling results and analysis

Augmenting the provided data with state data from wikipedia did not reveal any clustering of resorts with state label, hence, all the resorts were treated as a part of single market segment.

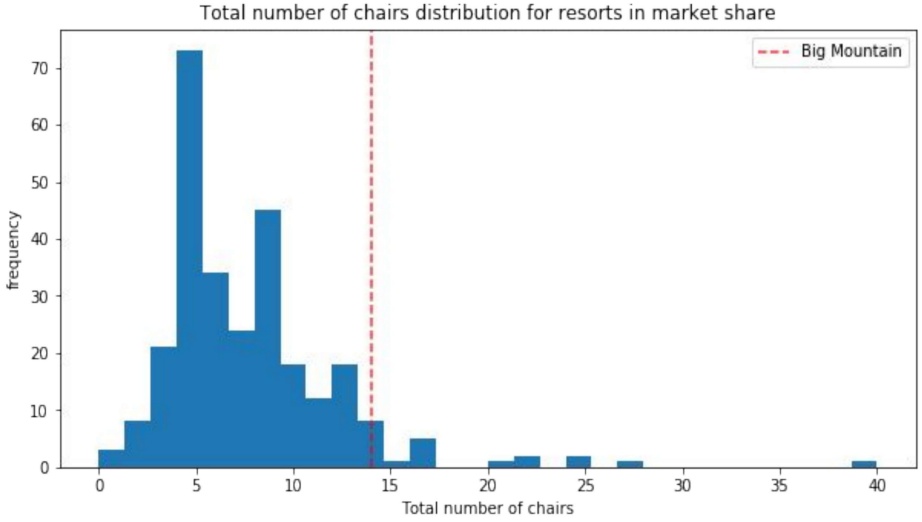


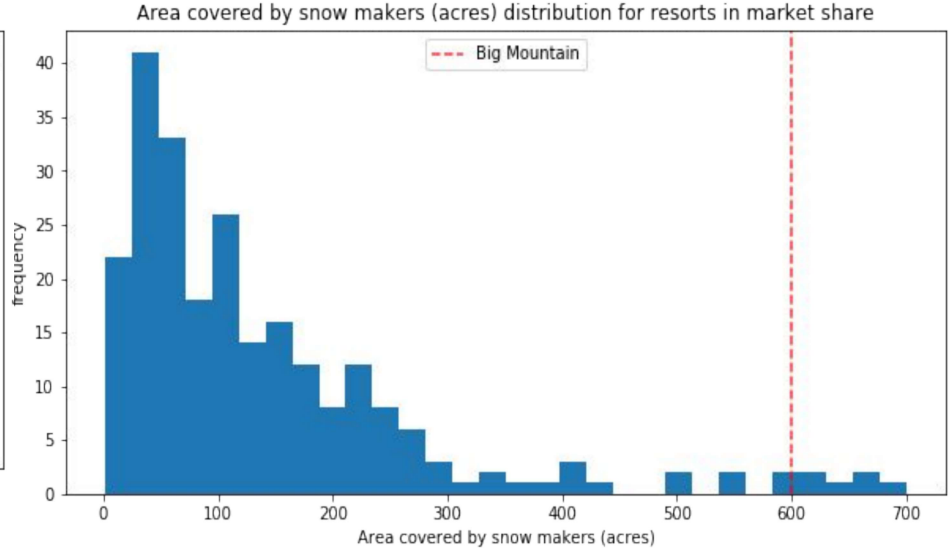
Among all the facilities, model determined that the following matter most to the visitors :-

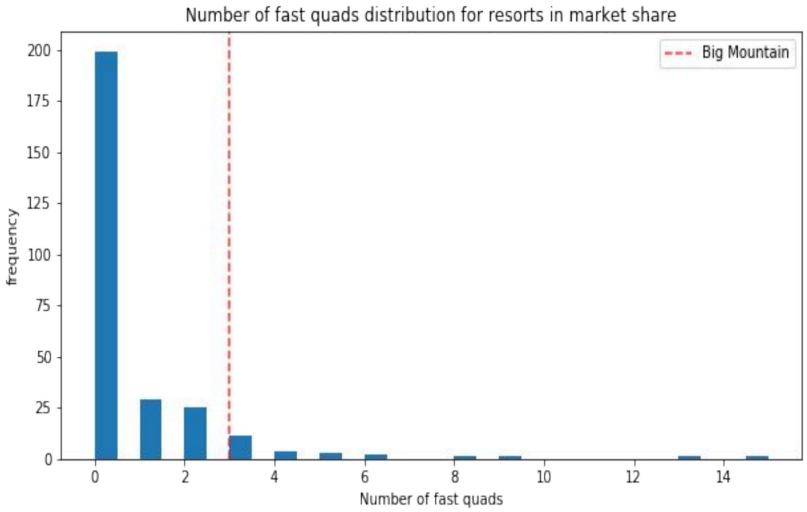
- Vertical Drop
- Snow Making
- Total chairs
- fastQuads
- Runs
- LongestRun
- Trams
- Skiable Terrain

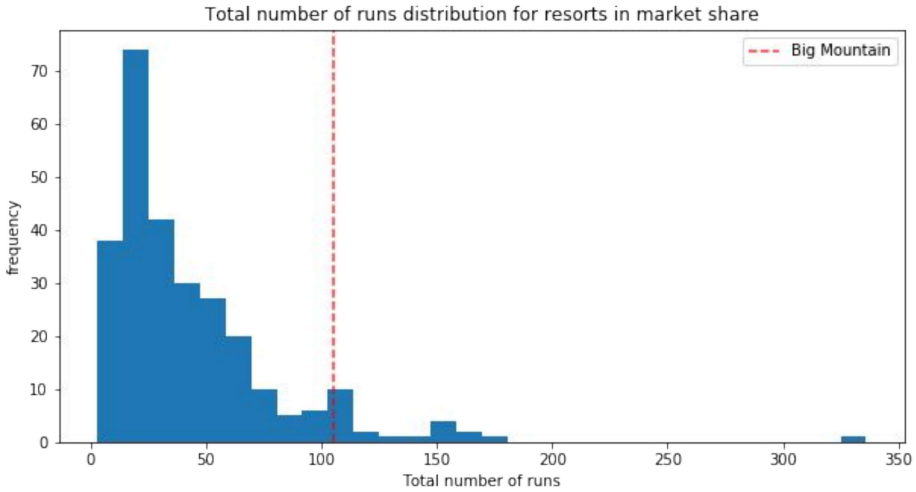


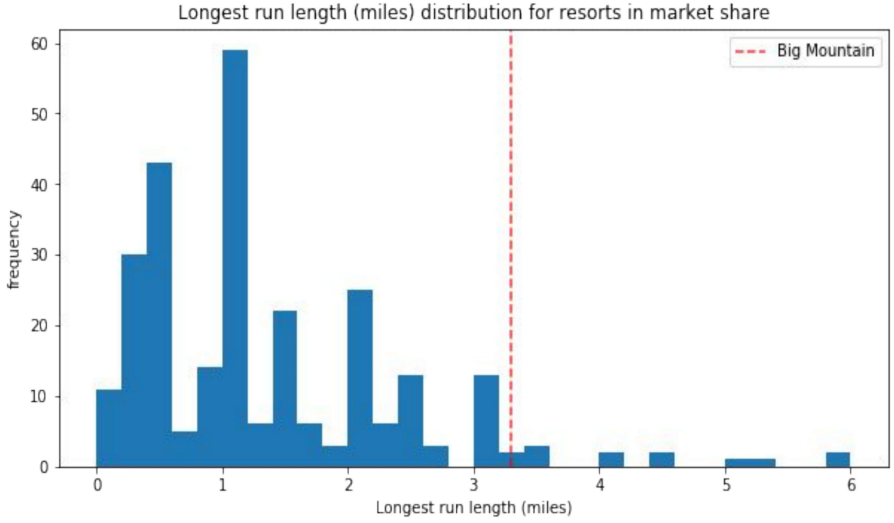
As it can be seen, Big Mountain Resort provides the best of these facilities compared to other Ski resorts

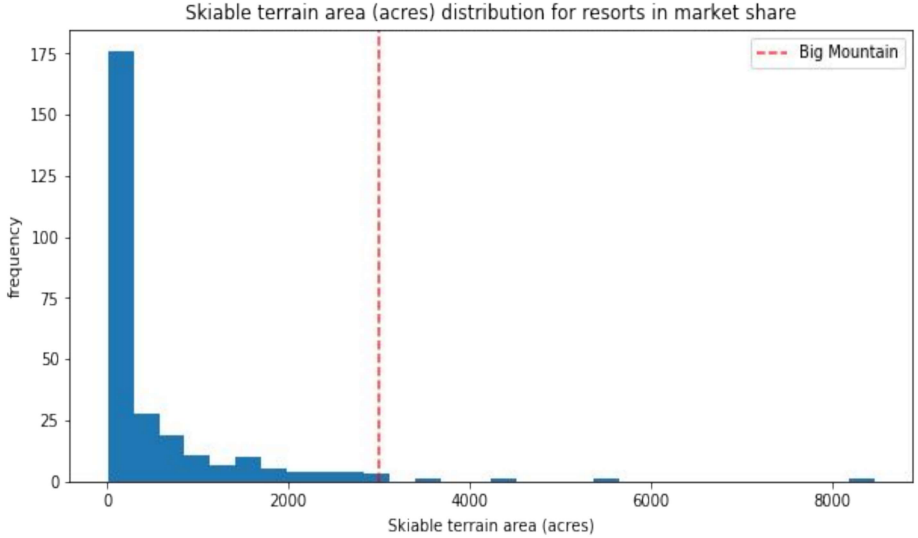




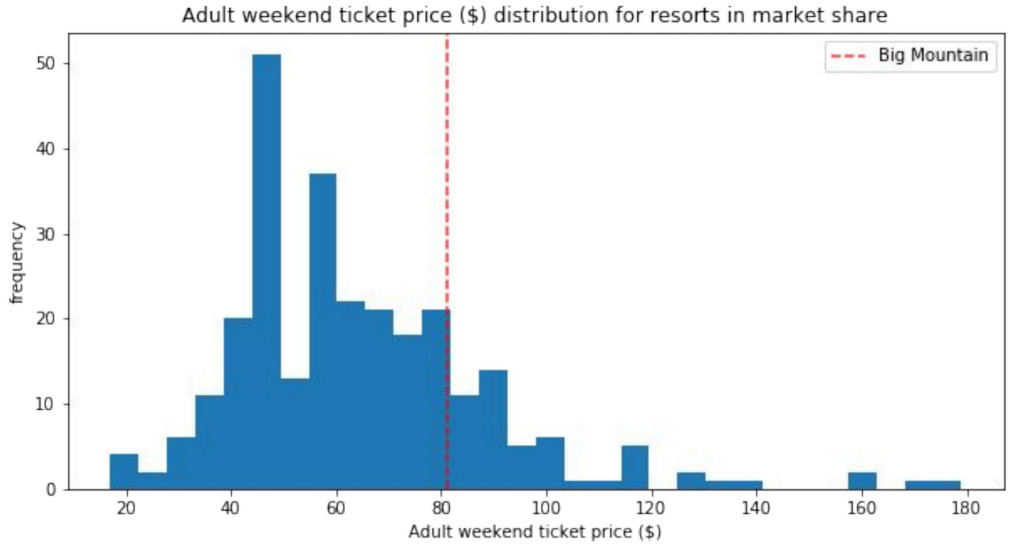

Number of fast quads distribution for resorts in market share
Big Mountain
frequency
Number of fast quads
0
2
4
6
8
10
12
14
0
25
50
75
100
125
150
175
200


Total number of runs distribution for resorts in market share
Big Mountain
frequency
Total number of runs
0
50
100
150
200
250
300
350
0
10
20
30
40
50
60
70

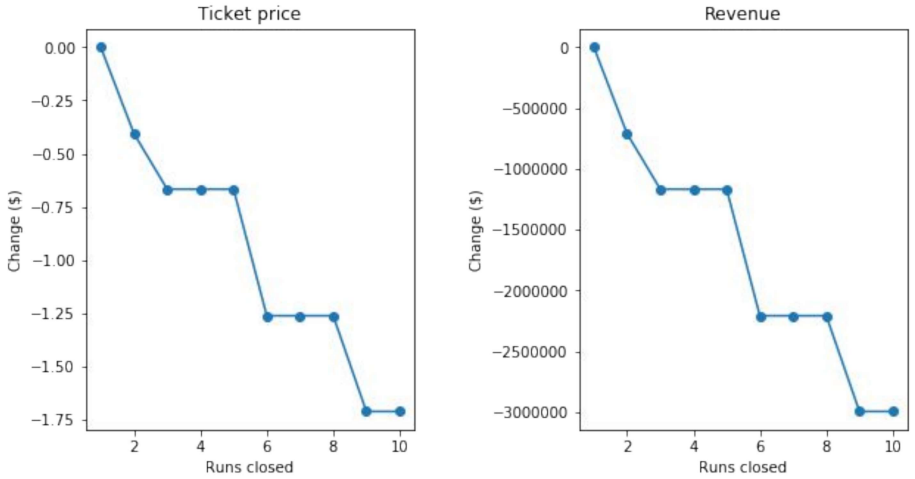

Longest run length (miles) distribution for resorts in market share
Big Mountain
frequency
Longest run length (miles)
0
1
2
3
4
5
6
0
10
20
30
40
50
60


Skiable terrain area (acres) distribution for resorts in market share
Big Mountain
frequency
Skiable terrain area (acres)
0
2000
4000
6000
8000
0
25
50
75
100
125
150
175

Clearly this is not reflected in the current ticket price, hence the price recommended by the model is much higher.



Closing one run makes no difference, closing 2 and 3 successively reduces support for ticket price and so revenue. If Big Mountain closes down 3 runs, it seems they may as well close down 4 or 5 as there's no further loss in ticket price. Increasing the closures down to 6 or more leads to a large drop.



Summary and Conclusion

1. Ticket price for Big Mountain Ski resort is much higher than its competitors in the state, but it is clear that compared to the whole market segment, it is still underpriced.

2. Pricing model recommends the ticket price to lie between $83.83 and $90, this not only covers the $1,540,000 operational cost of the new chairlift, but also generates additional revenue of at least $3,412,500.

3. In order to close some of the least used runs, trade off between reduced ticket price and reduced cost of maintenance should be considered carefully.

4. 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 supports to increase ticket price further by $1.99.

5. The model built can be used to guide the future investment strategy.

6. A more robust model can be built if the following additional data can be provided
   a. Cost of maintenance of various facilities
   b. Average annual visitors numbers, also in-state vs. out of state visitors.
   c. Total number of daily tickets and weekly passes sold.