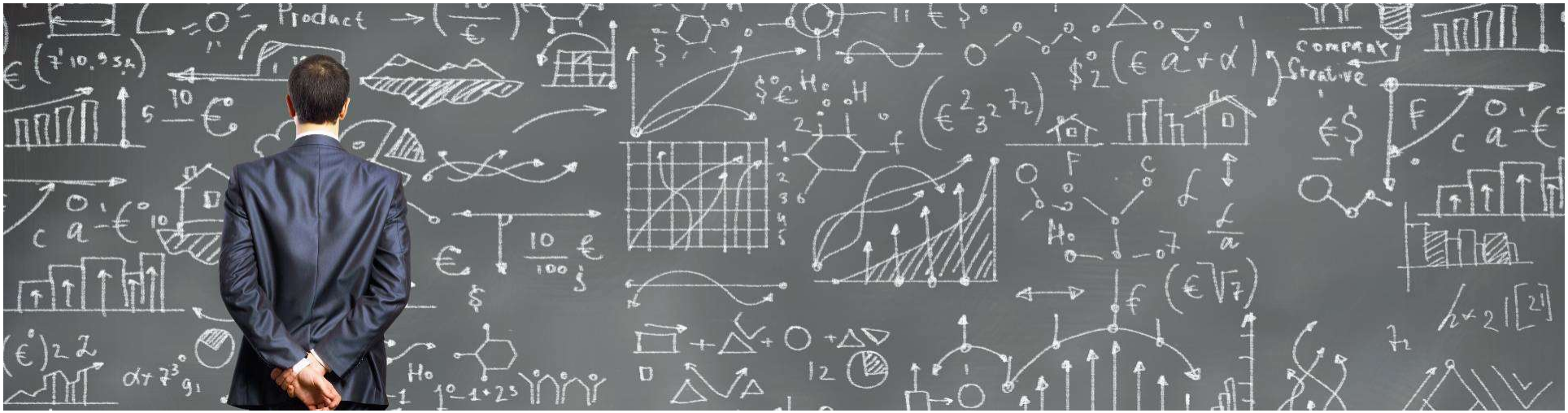
Kant Narcisse



Big Mountain Resort - Guided Capstone

[06/06/2021]

Agenda

Guided Capstone

Environment

Background / Problem Identification

Background

The ski industry in Montana is developed into a profitable, but highly competitive market. One of the major players is “Big Mountain” Resort, operates successfully since its inception in the late 1930’s. Big Mountain Resort, offers spectacular views of Glacier National Park and Flathead National Forest, with access to 105 trails. Every year about 350,000 people ski or snowboard at Big Mountain. This mountain can accommodate skiers and riders of all levels and abilities.

Situation

What opportunities exist for Montana’s Big Mountain Ski Resort to cut cost without undermining ticket prices and charge premiums above the average price in the market segment.

Problem Identification

Statement

- Big Mountain Resort has recently installed an additional chair lift to help increase the distribution of visitors across the mountain. This additional chair increases their operating costs by $1.5 million. The business wants some guidance on how to select a better value for their ticket price while considering a number of changes that will cut costs without undermining the ticket price or even higher ticket price.
- There is a suspicion that the resort is not capitalizing on its facilities as much as it could. Basing their pricing on just the market average does not provide the business with a good sense of how important some facilities are compared to others. Thus, hampers investment strategy. The resort's pricing strategy has been to charge a premium above the average price of resorts in its market segment.

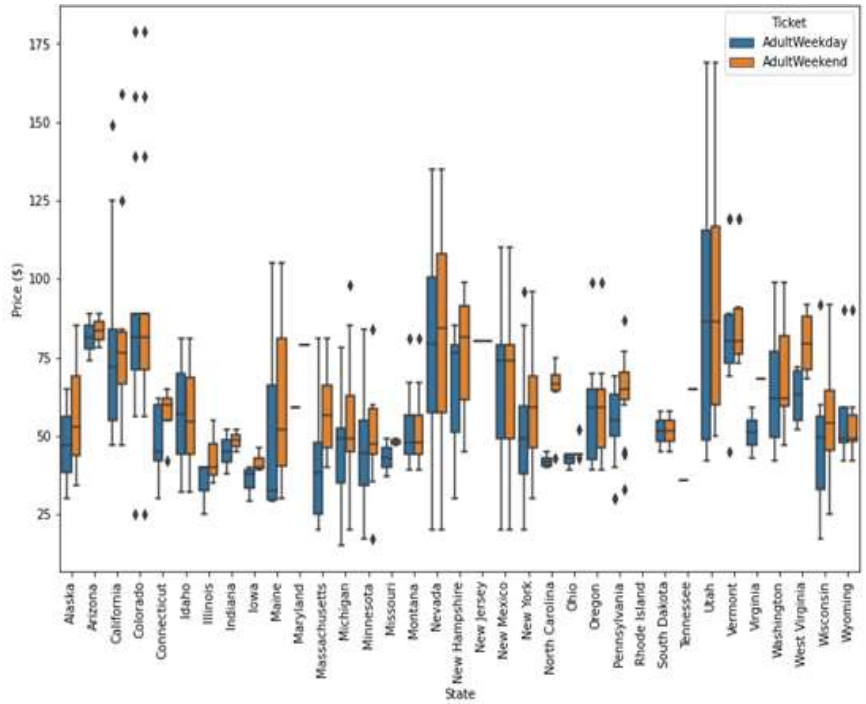
- The average ticket appears to lie in a broad band from around $25 to over $100 dollars.

Recommendations and Key Findings

Key findings

- Average ticket appears to lie in a broad band from around $25 to over $100 dollars.
- Some States show more variability than others. Montana and South Dakota, for example, both show fairly small variability as well as matching weekend and weekday ticket prices.

Dataset Visualizations

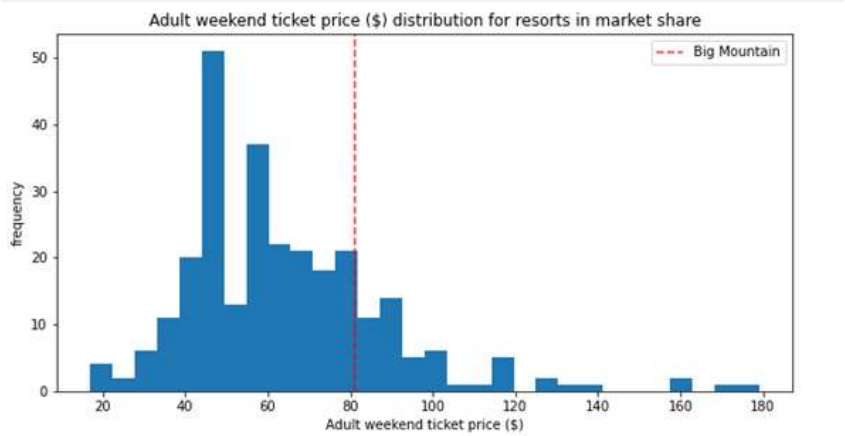


Recommendations

Recommendation 1

To offset additional operational cost Big Mountain resort has room to increase ticket prices from $81.00 dollars to $95.87 with room for additional increase and still be part of the same market share.

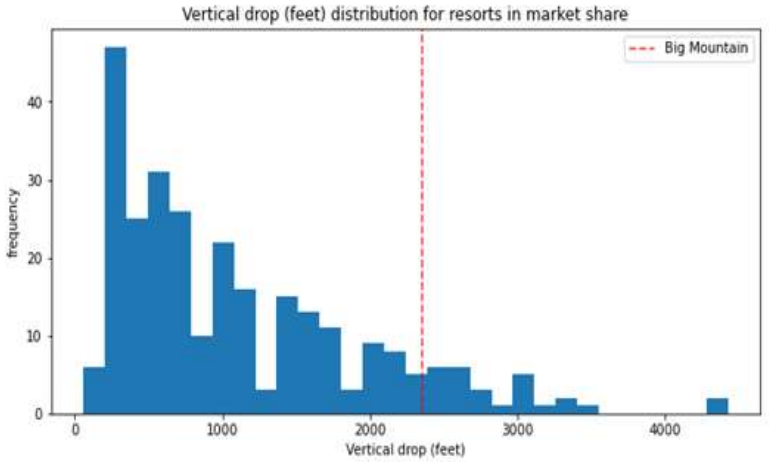
Visualization 1



Recommendation 2

To compliment the additional chair lifts and enhance facilities value we are recommending adding a run with a vertical drop by 150. This recommendation increases support for ticket price by $1.99 over the season

Visualization 2



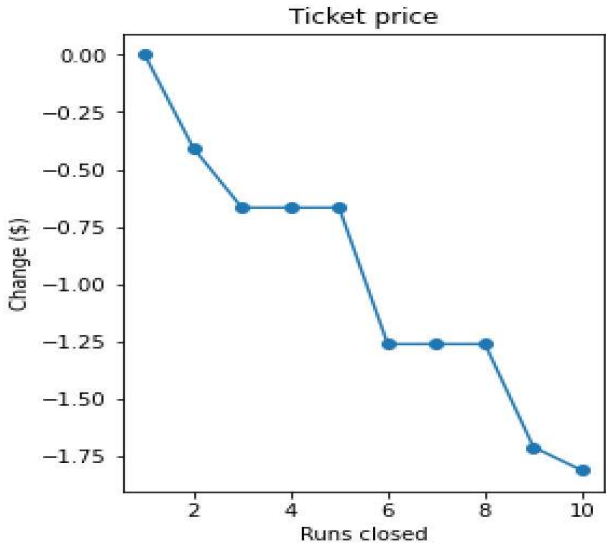
Big Mountain is doing well for vertical drop, but there are still quite a few resorts with a greater drop.

Modeling Results - Analysis

Closing Run Models

The model says closing one run makes no difference.

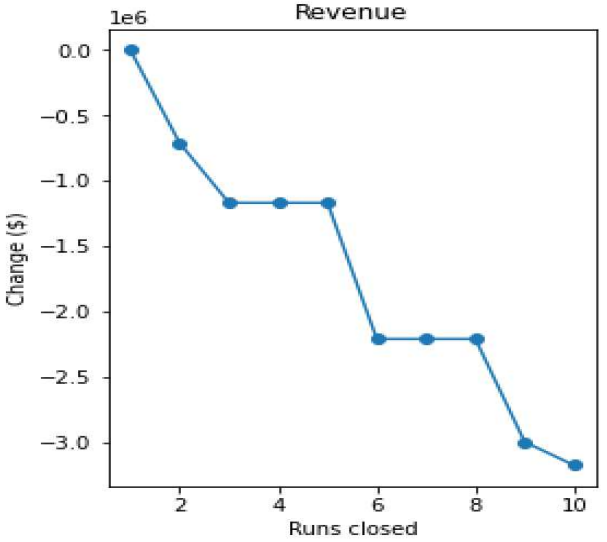
Closing 2 and 3 successively reduces support for ticket price and so revenue



Closing Run Models

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

Summary

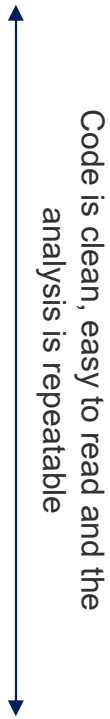
The goal of this strategy recommendation and analysis is to generate a more consistent visitation to create a larger stable income from customers who generate more revenue per visit. With Big Mountains' strong brand name and quality facility, this is a recommendation that Big Mountain has the means to accomplish.

Conclusion

In conclusion, Big Mountain resort expand its capabilities to develop new opportunities for revenue and an increased consumer base. The recommended business strategies focus mostly on ticket pricing to increase Big Mountain's current target markets to take further steps to continue its successful growth within the North American ski resort industry.

Data Science Approach

1. Understand the problem	▪ Never forget which business problem you are trying to solve and the business objectives.
2. Explore the data	▪ Exploratory data analysis to understand the quality of the data (i.e. missing fields), the shape of the data (size, number of features, type of features), the statistic profile of the data (i.e. outliers, distribution etc.)
3. Cleanse the data	▪ Clean any data quality issues: garbage in, garbage out
4. Preprocess the data	▪ Transform the data or engineer new features if necessary to gain more insights
5. Metrics and Modeling	▪ Model creation, evaluation and selection
6. Evaluate findings	▪ Are they logical and do they make sense? Is the modeling approach used appropriate?
7. Iterate and Refine	▪ Refine analysis and fine tune models and findings
8. Communicate clearly	▪ Simple and straightforward messaging linking the results to the business outcome. ▪ Assumptions stated.



Development Environment

Code

[insert GitHub link to code]
- Python
- Libraries: Scikit-Learn, Pandas etc.
- Other

Environment

- Windows, Linux
- Anaconda

Visualization

- Seaborn,
- Plotly
- Matplotlib

Data

- CSV
- URL