Background

Big Mountain Resort, a ski resort located in Montana serves every year about 350,000 people ski or snowboard. This resort can accommodate skiers and riders of all levels and abilities. With the investment of $1.54 million for this season for the additional chair, company wants to develop a business strategy to maximize the revenue by providing the best value to their customers based on their level of facilities compared to other resorts in their market.

Problem Statement Hypothesis

What opportunities exist for the Big Mountain Resort to maximize revenue by optimizing ticket prices based on the 'best value to their customers' comparing their facilities vis-à-vis with other resorts in their market segment using data-driven strategies?

Methodology for the Solution

The Data Science Method (DSM) steps as shown below were adopted to develop and analyze the ticket pricing model for the Big Mountain resort compared to other resorts in their market segments:

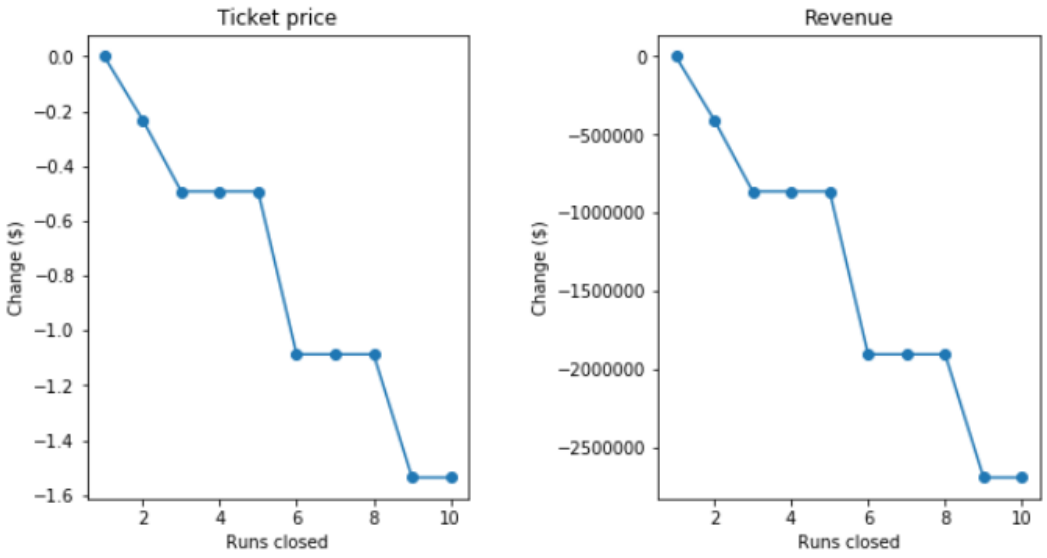
Recommendations

During the course of the modeling, management team shared 4 different scenario and those scenarios are listed below along with the recommendations:

Scenario 1: Permanently close down up to 10 of the least used runs in order to reduce the operating cost

- Based on the model, it was found that closing 1 run makes no impact on the ticket, closing 2 & runs reduces the support for the ticket pricing and further closing from 3 to 5 runs doesn't make any further impact. In consultation with the

marketing team, Big Mountain can further explore closing of 5 runs to save on the operating cost as shown below:



Scenario 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

- Based on the model, Big Mountain can increase the ticket prices by $1.99 which will amount to increase in revenue by $3,474,638 over the season.

Scenario 3: Same as Scenario 2 with additional snow making coverage of 2 acres

- No increase in the revenue and the capital cost as well as the operating cost will go up due to additional snow coverage, hence this is not recommended.

Scenario 4: Increase the longest run by 0.2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability

- No increase in the revenue and the capital cost as well as the operating cost will go up due to additional snow coverage, hence this is not recommended.

Recommended Next Steps

1. While a data-driven strategy for the ticket pricing has been developed, it is recommended that the marketing team should analyze the relationships between

ticket pricing and resort facilities based on their experience and if required by engaging a resort pricing consultant. This will increase the confidence in the model to keep increasing the model maturity.

2. Build a production ticket pricing model to empower the marketing team

References

- https://github.com/jayguptacal/DataScienceGuidedCapstone/blob/master/BigMountainResort-JGuptaProblemIdentification.pdf - for problem statement hypothesis
- https://github.com/jayguptacal/DataScienceGuidedCapstone/blob/master/Notebooks/02_data_wrangling.ipynb - for data wrangling steps
- https://github.com/jayguptacal/DataScienceGuidedCapstone/blob/master/Notebooks/03_exploratory_data_analysis.ipynb for the data exploratory steps
- https://github.com/jayguptacal/DataScienceGuidedCapstone/blob/master/Notebooks/04_preprocessing_and_training.ipynb for preprocessing & training data steps
- https://github.com/jayguptacal/DataScienceGuidedCapstone/blob/master/Notebooks/05_modeling.ipynb for the final modeling steps