Big Mountain Resort Guided Capstone Project Report

Big Mountain Resort, situated in Montana, presents a diverse array of amenities to skiers and riders of all levels and abilities. It hosts about 350,000 people every year. 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 Big Mountain Resort to increase profitability either by reducing operational cost without undermining the ticket price or charging higher premium ticket price than the average based on the facilities provided?

Methodology:

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

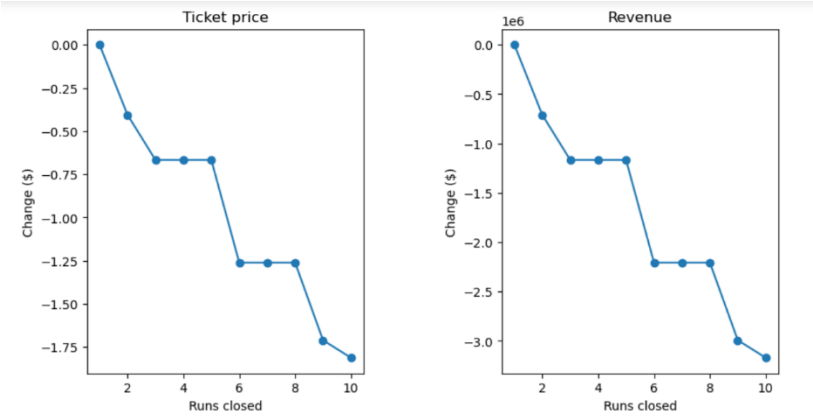
1. Problem identification
2. Data wrangling
3. Exploratory data analysis
4. Pre-processing and training data
5. Modelling
6. Documentation

Tested Scenarios

By utilizing the adopted model, 4 different scenarios that the management team suggested were tested.

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

- Based on the model, 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.



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. Over the season, this could be expected to increase the revenue by $3,474,638.

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

- The outcome is similar to scenario 2. Such a small increase in the snow making area makes no difference.

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.

Recommendation

Based on the scenarios tested on the adopted model, as shown in scenario 2, increasing the vertical drop by adding a run to a point 150 feet lower down, by installing an additional chair lift but without additional snow making coverage, will result in a substantial revenue increase for the resort.