**Ticket Pricing Model for Big Mountain Resort**

**Introduction:**

The goal of this report is to come up with a pricing model and present ticket pricing recommendation for Big Mountain ski resort. Big Mountain wants to identify the facilities that matter most to visitors, particularly which ones they're most likely to pay more, and based on that the resort seeks to maximize its returns, relative to its position in the market. By utilizing the available data this project aims to build a predictive model for ticket price based on a number of facilities, or properties, boasted by resorts*.* This model will be used to provide guidance for Big Mountain's pricing and future facility investment plans.

**Approach:**

After the identification of the problem, the relevant data were imported into the model. The data were cleaned, formatted, and prepared for analysis. Then, an exploratory analysis of data was carried out to evaluate the correlation between the variables, identify the most important/critical variables for pricing models. The analysis of data and selecting important parameters, the data were then computed into several models to come up with the best predictive model. Once the model was tested and validated then the modeling of several scenarios were performed to come up with the ticket pricing recommendations.

**Recommendations:**

Based on the model, the following features were identified as the most important features that affect the ticket pricing of the resort –

* Vertical drop
* Snow making accumulation
* Total chairs
* Fast Quads
* Runs
* Longest Runs
* Trams
* Skiable Terrain

The resort operates within a market where people pay more for certain facilities, and less for others. To address this, the project explored four possible scenarios that the resort is interested in either cutting costs or increasing revenue (from ticket prices).

* **Scenario 1 -** Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.

The model found that closing a single run makes no difference. However, closing 2 and 3 successively reduces support for ticket price and so revenue. If the resort plans to close down 3 runs, the model suggests that closing down addition 4 or 5 runs has no further loss in ticket price. On the other hand, when the closures are increased to 6 or more, the ticket price and subsequent revenue drops significantly. So, it is recommended that the resort can close down up to 5 runs to cut the cost. Figure 1 shows this influence of runs closure in ticket pricing and revenue.

Chart, line chart

Description automatically generated

Figure 1. Influence of number of runs close in ticket pricing and revenue.

* **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

This scenario increases support for ticket price by $8.61 and over the season this could be expected to amount to $15,065,471.

* **Scenario 3 -** 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. Also, add two acres of snow making cover

This scenario increases support for ticket price by $9.90 and over the season this could be expected to amount to $17,322,717. Therefore, adding two acres of snow making can add $1.29 per ticket and $2,257,246 in revenue per season.

* **Scenario 4 -** Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

This model did not notice any change the price and revenue under this scenario.

In summary, the resort can adjust the ticket price by evaluating the features such as increasing the snow making cover and optimizing the number of runs. However, increasing the length of runs does not influence the ticket pricing/revenue. Since the model is prepared in such a flexible way that the resort can vary several combinations of important features.