1. Background

Big Mountain Resort (hereinafter "BMR" or the "Resort") is a ski resort located in Montana, United States. The Resort has an annual inflow of 350,000 skiers and, at present, has made a significant investment in a new chairlift that will increase its operational costs by $1.54 M.

The Resort is interested in identifying opportunities, to implement in the current year, that will recover the cost of this investment and maintain a profit margin of 9.2%. At the same time, the Resort seeks to understand what the annual revenue will be at the end of the year, after having implemented such opportunities.

2. Scope of Work

In the analysis, we have focused on analyzing the data from 330 ski resorts in the USA, aiming to understand the relationships between their ticket prices and their assets (structural or operational).

With these insights, we generated a model to predict the ticket price based on the assets that better explained it. Using this model, we estimated what the ticket price of BMR should be, based on their current assets, and how much would the ticket price increase of decrease after implementing a number of opportunities (e.g. add/cut nº of runs, add/cut nº of chairlifts, …).

3. Summary of model

As a result of our work, we generated a model that could predict the ticket price with an average error of $9.66 and a standard deviation of $1.96. By using the simple average as baseline predictor, the expected average error was $19.

This model considered that the following 8 assets of ski resorts were the ones that could better explain the ticket price in ski resorts: **i. Vertical drop, ii. Area covered by snow making, iii. Nº of chairs, iv. Nº of fast quads, v. Nº of runs, vi. Longest run length, vii. Nº of trams and viii. Total skiable area**

4. Insights and opportunities identified

In the following lines, we will summarize our main findings in relation with:

- **The ticket price of Big Mountain Resort**

The current ticket price of the Resort is **$81**.

However, according to the model, based on the current assets of BMR, the ticket price could be in between **$81.09** and **$101.73**, but most probably around **$91.41**.

- **Feasibility of different opportunitites to achieve a 9.2% profit margin**

In order to compare different opportunities to be implemented, we input to the model different scenarios. Each scenario modified one or more of the 8 assets considered as best predictors of ticket price. The outcome of each scenario was the new expected ticket price, considering the updated values of the assets.

This approach allowed us to calculate the revenues that BMR could expect to lose or generate with each scenario from the ticket price perspective. However, as we do not have information about operational costs, we cannot provide the operational costs perspective of each scenario, which would complete the economic analysis of each scenario.

In the following lines, we briefly comment the scenarios input to the model as well as a brief conclusion regarding how much the ticket price was expected to increase or decrease:

Scenario 1 – Close up to the least 10 least used runs: The impact on ticket price is not progressive, in particular, closing 1-2 runs would decrease modelled price ticket in $-0.88 in price ticket (annually $-1.54M), closing 3-5 runs would decrease modelled price ticket in $-1.3 in price ticket (annually $-2.27M), closing 6 runs would decrease modelled price in $-1.5 (annually $-2.62M), and closing 7-10 runs would decrease modelled price in $-2.1 (annually $-3.67M.)

Scenario 2 – Increase the vertical drop in 150 feet + install a chairlift: This could support a ticket price increase of $1.24.

Scenario 3 – Increase vertical drop in 150 feet + install a chairlift + add 2 acres of snow making: There would not be a further support in price increase.

Scenario 4 – Increase longest run in 0.2 miles + add 4 acres of snow making capability. This scenario does not support a price increase.

5. Conclusions of best opportunities

Scenario 2: Increase vertical drop in 150 feet + adding a new chairlift is the most economically feasible.

This scenario would support a ticket price increase of $1.24. Though season, if every client bought a 5-day ticket, the expected revenue increase would be of $2.17M. After deducting the cost of installing the chairlift (i.e. $1.54M), the net revenue from this scenario would be $0.63M.

However, even though this scenario would be feasible economically, it would not be enough to cover the previous chairlift investment. **There would be still a gap of $0.90M that would need to be recovered, though cost reduction or ticket price increase, to maintain a profit margin of 9.2%.**

6. Next steps

In relation with **increases in ticket price**, a further ticket price increase (additional to the previous USD 1.24) of $0.52 would cover the gap of $0.90M. The model supports sufficiently such increase.

In terms of **cost reduction**, it is necessary to understand the relationship between closing runs and savings for cost reduction. It could be interesting to close the runs if the savings surpass the expected loss in ticket price.

To compare scenarios, business should generate and test scenarios modifying the 8 assets mentioned before, and considering both the **revenue perspective**, from the expected ticket price increase or decrease, and the **operational cost perspective**, this is, how much the operational costs are expected to increase or decrease under each scenario.

This approach will optimize the process of identifying the best opportunities for business to implement.