**Report : Guided Capstone 1 – Big Mountain Resort**

Big Mountain Resort - ski resort company plans to change its price strategy and looking for solutions to justify the price increase in upcoming year. For this purpose, we used ski resort data from all the resorts in US and performed an intuitive analysis to adapt a better pricing for the resort.

Our initial inspection of the data revealed that US has total of 330 resorts spread out around different states. The pricing of the resorts was ranging from $25 up to $180. But in most of the resorts, the weekday and weekend prices are almost equal, so optimizing either of the price will justify the pricing strategy. Thus, we opted to work on the weekday ticket price of our resort, since it had abundant data for all the resorts. (Refer Figure 1)

Chart, scatter chart

Description automatically generated

***Figure 1.*** *Linear relationship between weekday and weekend ticket prices in all the ski resorts of US.*

Further data exploration identified that states with higher population had higher number of resorts even though they are smaller in size. Also, the contrast between skiable area was noticeable that states with larger skiable area did not had higher price. Meanwhile, the smaller state resorts did not have larger ski area and but provided large night ski area, which may be a plausible reason for higher pricing.

Some of the resorts which had higher pricing offered unique facilities that other resorts did not provided. We identified strong relationship between ticket price and features such as **'vertical\_drop', 'fast\_quads', 'runs'** and **'total\_chairs'** among the resorts that may be customers are willing pay more when available. Also, a resort having high number of visitors and limited number of unique facilities enables a resort to increase the price due to the high demand for certain offerings.

As we seen earlier, night skiable area along with snow making machine also customers may pay more attention while lodging into a resort and possibly help to justify a price increase. We tested few models to select the best feature in our data to substantiate the price increase. Upon that we identified **in features such as Snow making area, total chairs, fast quads, longest runs, skiable terrain area - Big mountain resort clearly stands out**.

Based on these features our model listed below recommendations to fix the price.

* Reducing the total runs up to 10 runs
* Increasing the vertical drop by 150 feet with an additional chair lift
* Along with that increasing snow cover by 2 acres
* Increasing the longest run by 0.2 mile and increasing the snow coverage by 4 acres.

The current price of the Big Mountain Resort is $81, which is moderate price compared to all other resorts in the US. But it is also the highest in the Montana State. **Our model predicted price change is $91 with the expected mean absolute error of $10.**

The additional operating cost beared by installing the new chair is **$1,54,0000**. According to the number of expected visitors with average sales of 5 tickets per person. It will cost only **$0.88** extra per ticket. So, likely this operating cost will be covered by the price increase. Further suggestions to include, reducing the total number of runs can save ticket price if operating costs increases in future.