Guided Capstone – Big Mountain Resort Case Study

As the ski resort industry is expected to continue stable growth over the next five years, exploration of current market trends and competitors are needed to attract consumer attention. By identifying the most important factors that point to greatest ROI, Big Mountain can maximize their returns by investing in the equipment and facilities that make the biggest impact for the consumer.

As such, Big Mountain suspects that returns aren’t currently maximized and can be optimized by prioritizing defining features. This project’s intent is to provide a predictive model for ticket prices based on market specific facilities.

Focusing on the ticket prices for adults during the weekdays, features were prioritized based on their effect on the price.

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Fig 1. Ticket prices for weekdays and weekends are shown by the average of target states. Notice the relatively small range in ticket prices for Montana.

Features are engineered by four columns: NightSkiing\_ac, TerrainParks, SkiableTerrain\_ac, and daysOpenLastYear.

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Fig. 2. The first five resorts are shown by the resort data and their demographics. The last seven features at the bottom were chosen as important features to examine. 6 out of 7 of these features dominate 75% of the variance.

The most significant correlations observed were the fastQuads, Runs, and Snow Making\_ac.

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Fig. 3. This is a heatmap showing the correlations between features.

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Fig 4. The most significant features were based on random regressor parameters and trained using the mean of each feature.

There is a best model based on these possibilities:

1. Currently the price for a adult weekday ticket is $81, the modelled price is 95.87 with a plus-minus of $10.39. This suggests that even a $5 will increase revenue by a sum of $7.5 million per year.
2. To save on costs: adding a run, increasing the max vertical drop by 150 ft, and installing an additional chair lift will correlate with a $1.99 increase that may sum $3.5 million per year. Also, closing up to the ten least used runs correlates to a slight price decrease.