# Big Mountain Resort

Strategic Pricing Model

# Problem Statement Worksheet (Hypothesis Formation)

How can Big Mountain Resort adjust its ticket pricing strategy to accurately reflect the value of its unique facilities, including the new chair
lift and the diverse range of trails, to increase annual revenue by at least 5% without decreasing visitor numbers, by the start of the next ski season?

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## 1 Context

Big Mountain Resort faces financial pressures from increased operational costs due to a new chair lift, raising expenses by $1,540,000 this season. Amidst charging premium ticket prices, there's a need to reassess the pricing strategy to better leverage the resort's unique features, including the Hellfire run, to enhance revenue without deterring visitors.

## 2 Criteria for success

Increase annual revenue by at least 5% without impacting visitor numbers by optimizing ticket prices to reflect Big Mountain Resort's unique value, effectively offsetting the recent $1.54M increase in operational costs.

## 3 Scope of solution space

Conduct a comprehensive market analysis to identify pricing trends and customer expectations within the ski resort industry.

Evaluate the impact of operational costs, especially the new chair lift, on overall financial performance and identify areas for efficiency improvements.

## 4 Constraints within solution space

Pricing adjustments must remain competitive within the ski resort market, without exceeding a threshold that could deter visitors
.
Any changes to the resort's offerings or operations to enhance efficiency must not compromise the quality of the visitor experience.

## 5 Stakeholders to provide key insight

Engagement with stakeholders such as Jimmy Blackburn and Alesha Eisen is crucial for aligning the project's objectives with operational realities and data availability.

## 6 Key data sources

CSV file containing data on 330 US resorts, including detailed information on Big Mountain, offers a rich dataset for analysis.

# Recommendations and key findings

**Increase Ticket Prices:** Cautiously raise prices towards the modeled suggestion of $95.87, aligned with facility enhancements and market positioning.

**Operational Adjustments:** Consider implementing the vertical drop enhancement. It provides a good balance of investment to potential revenue increase.

**Run Management:** Conduct a pilot test by temporarily closing the least used runs, evaluating both operational savings and guest feedback.

# Model Overview

**Model:** Random Forest.

**Train Dataset:** All data points except Big Mountain.

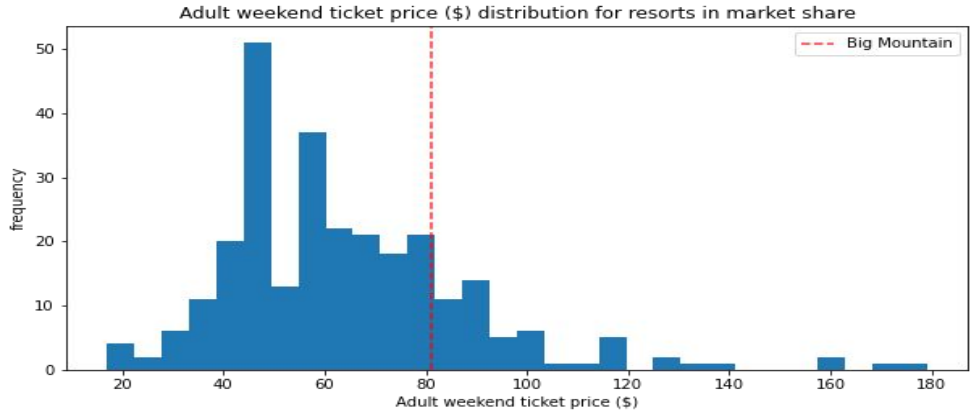
**Predicted variable:** Big mountain Price.

**Important features:**

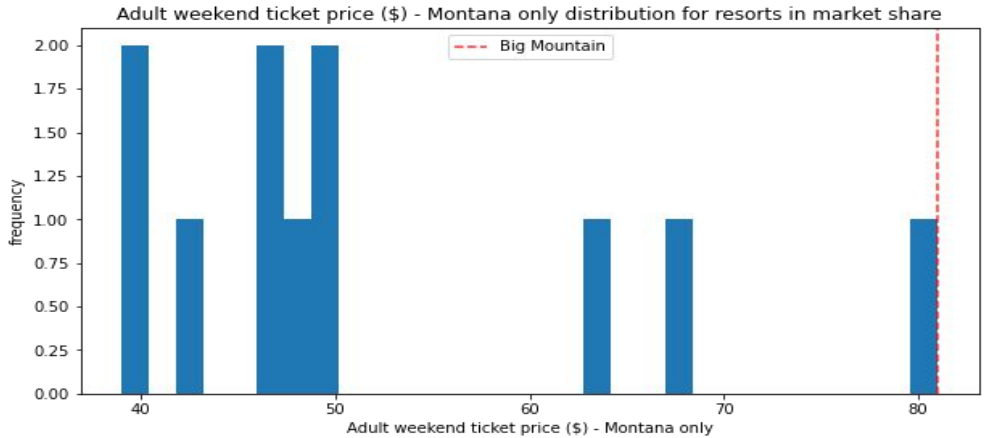
- vertical_drop
- Snow Making_ac
- total_chairs
- fastQuads
- Runs
- LongestRun_mi
- trams
- SkiableTerrain_ac

# Why price have room to improve.

**Adult Weekend Price**

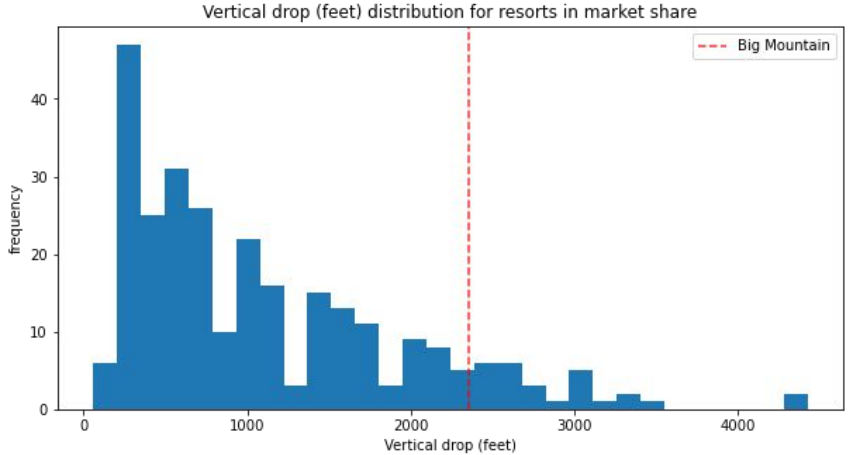



**Adult Weekend Price Montana**

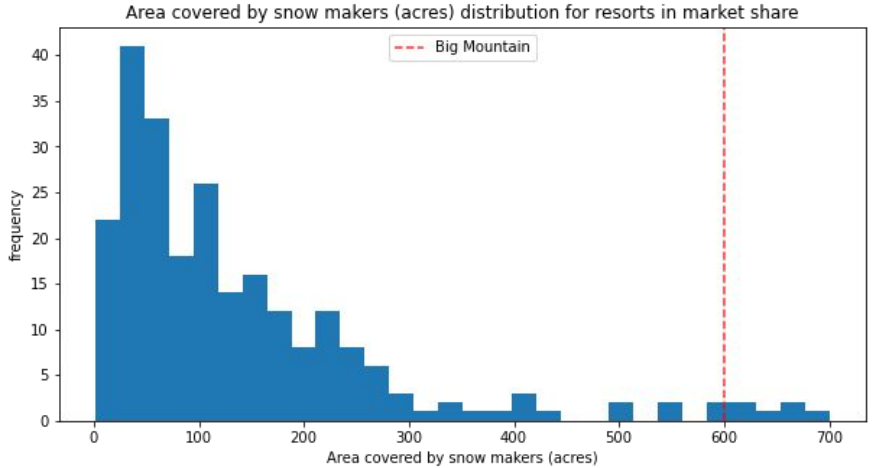


# Price room to improve

**Vertical drop**

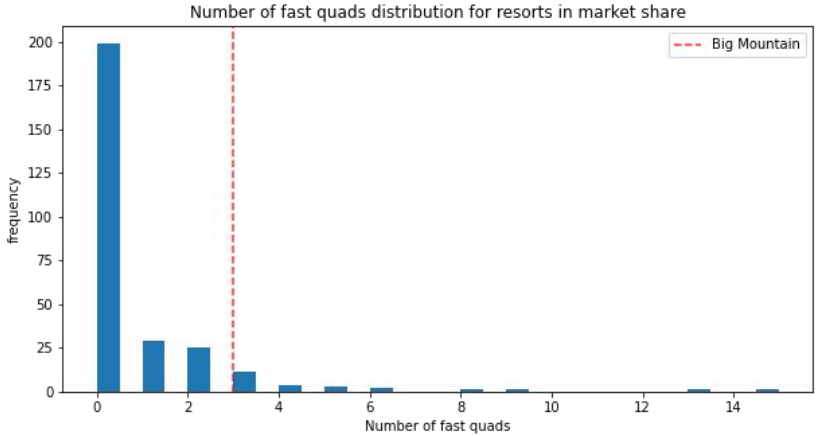



**Snow making area**

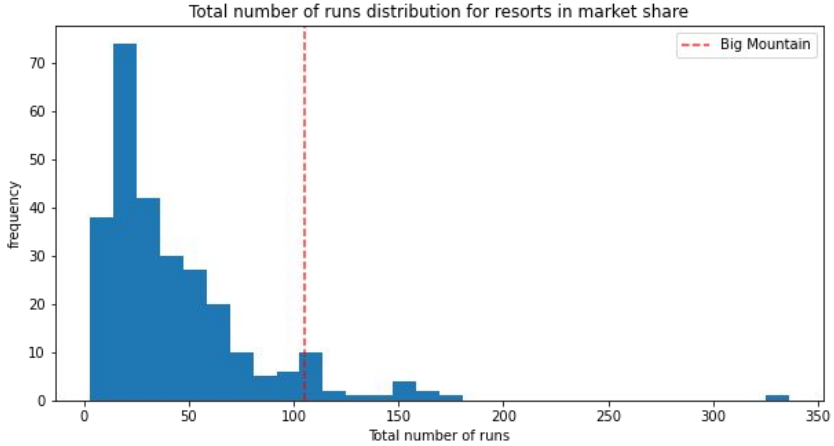


# Price room to improve

**Total Number of Chairs:**




**Runs:**



# Modeling scenarios

**Closing Runs:**

- Closing up to 10 runs has minimal impact on ticket pricing.
- Successive reductions in ticket price support when closing 1 to 3 runs.
- No further loss in ticket pricing from closing 3 to 5 runs.
- Significant drop in pricing when closing more than 5 runs.

**Enhancing Vertical Drop & Chairlifts:**

- Adding a run that increases the vertical drop by 150 feet with an additional chairlift supports a higher ticket price.
- Potential revenue increase: $3.47 million per season.

**Snow Making Area:**

- Minimal impact on ticket pricing from small increases in snow-making area.
- Comparable increase in ticket price to vertical drop enhancement but practically negligible.

**Longest Run Extension:**

- No significant impact on ticket pricing.
- Low priority in feature importance within predictive models.

# Further work and conclusion

**Key Areas for Further Work:**

**Cost Analysis:**

- Implement detailed cost data collection to refine the pricing model and assess profitability more accurately.

**Market Dynamics:**

- Conduct in-depth research into guest demographics and preferences to better tailor marketing and operational strategies.

**Tool Development:**

- Develop a user-friendly analytical tool to enable resort business analysts to independently use the model for regular adjustments and scenario testing.

**Conclusion:**

- Big Mountain Resort can enhance its pricing strategy to better reflect the value it provides.
- Emphasize facility enhancements and operational changes to boost revenue and maintain guest satisfaction.
- Future efforts should focus on refining cost analyses and integrating comprehensive market research to optimize pricing and operational strategies.