

Guided Capstone Project Report

Big Mountain Resort: Data-Driven Business Strategy

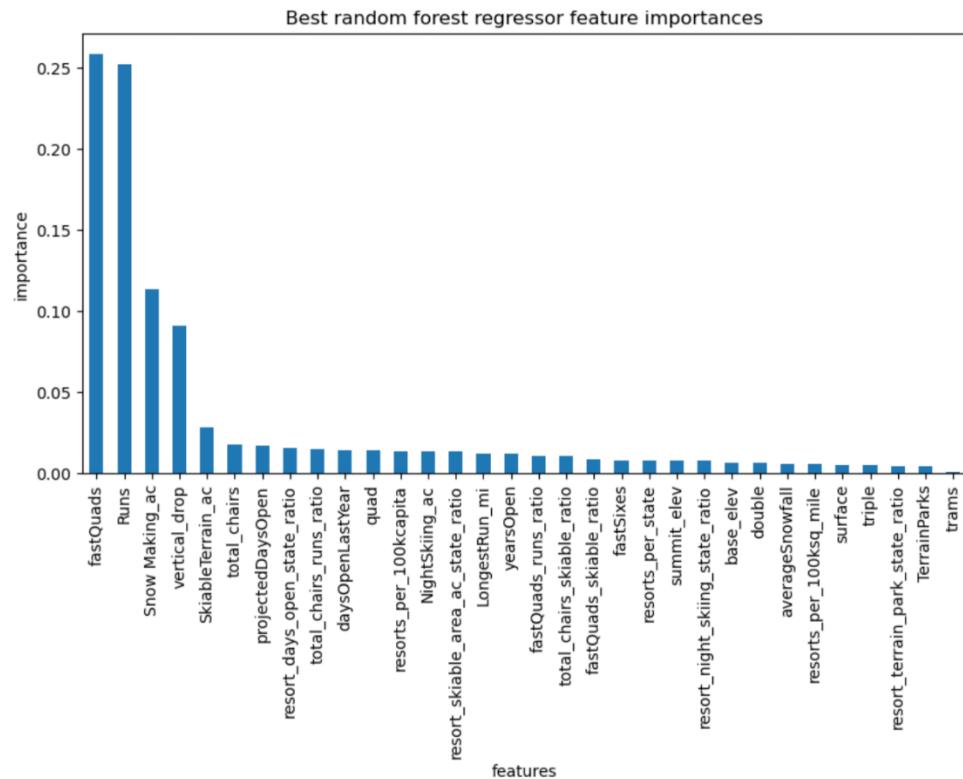
1. Introduction

Big Mountain Resort wants to grow its business by improving pricing, customer experience, and profits. By analyzing data, we found ways to make smart changes that help the resort attract more visitors and increase revenue.

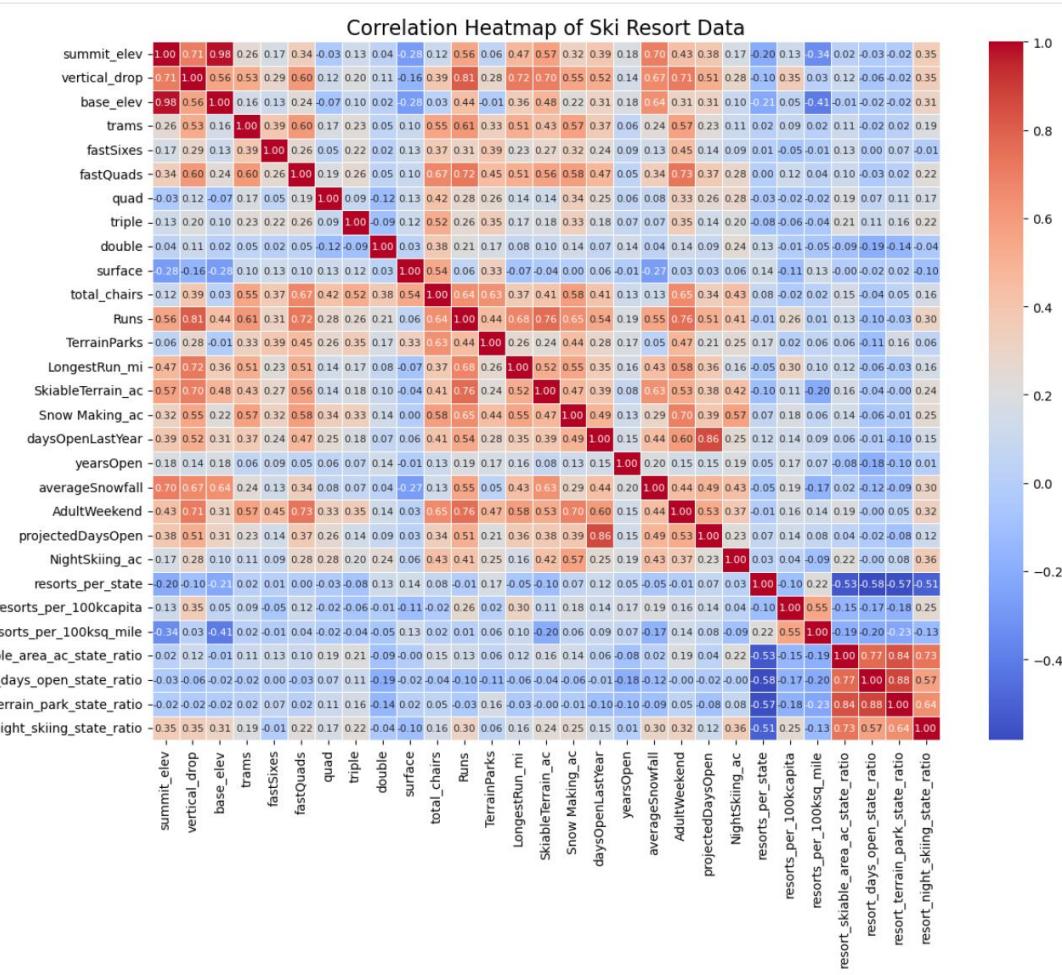
2. Key Findings and Insights

2.1 Where Big Mountain Stands Today

- Current ticket price:** \$81 per Adult Weekend pass.
- Suggested ticket price:** \$95.87 based on our analysis.
- Top 4 pricing factors:** Ticket price is influenced most by **vertical drop, number of fast quad lifts, number of runs, and annual snowfall**



 **Figure 1: Feature Importance for Ticket Pricing** (This chart highlights the most important factors affecting pricing, reinforcing why vertical drop, fast quads, runs, and snowfall were prioritized in our recommendations.)



 **Figure 2: Correlation Heatmap of Resort Features** (This heatmap visually demonstrates how different resort characteristics, including the top four factors, correlate with ticket prices.)

- ◆ **Recommendation:** Gradually adjust ticket prices while monitoring customer response.

2.2 Data-Backed Pricing Strategy

Our modeling showed that pricing is **strongly influenced by key resort features**, and we recommend adjusting pricing based on these insights:

- **Higher Vertical Drop & More Fast Quads = Higher Ticket Prices:**
 - Resorts with larger vertical drops and more high-speed lifts tend to charge more. (
 - **Recommendation:** If the resort expands its vertical drop or installs more fast quads, a price increase is justified.
- **Number of Runs Matters, But Closing Too Many Hurts Pricing:**
 - Removing up to **5 runs** does not impact pricing significantly but closing more than **6 runs** lowers the ticket price support.

- **Recommendation:** Carefully evaluate run closures and maintain enough variety to sustain high pricing.
- **Snowmaking Expansion Had No Impact on Price:**
 - Adding 2 extra acres of snowmaking **did not influence pricing** in our model.
 - **Recommendation:** Snowmaking expansion should not be a priority investment for revenue growth.

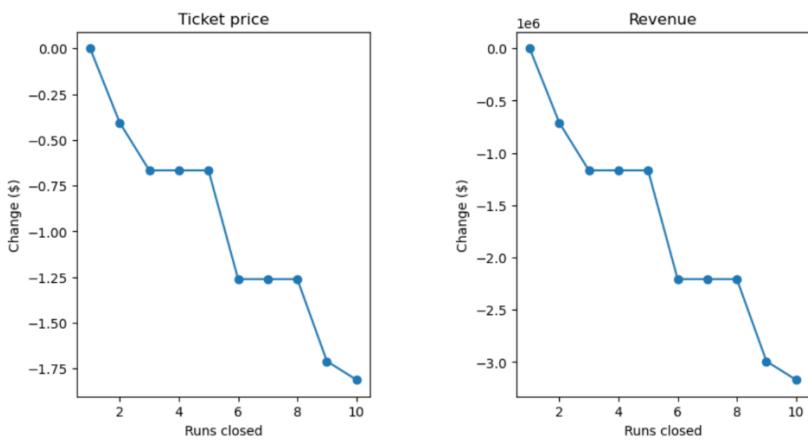


Figure 3: Impact of Run Closures on Ticket Price & Revenue (This graph demonstrates how closing more than 6 runs leads to noticeable drops in both ticket pricing and revenue.)

- ◆ **Recommendation:** Use a **data-driven approach** to price increases—adjust based on measurable resort improvements and visitor capacity, rather than applying industry assumptions.

2.3 Facility Investments to Maximize Revenue

Focus on Expanding the Features That Increase Price: Our modeling showed that the following investments lead to higher ticket price potential:

Adding a New Chair Lift:

- Increase ticket price support by **\$1.99**, leading to **\$3.47 million in extra seasonal revenue**.
- Helps distribute visitors across the mountain more efficiently.
- **Recommendation:** If adding a chair lift, a ticket price adjustment is justified.

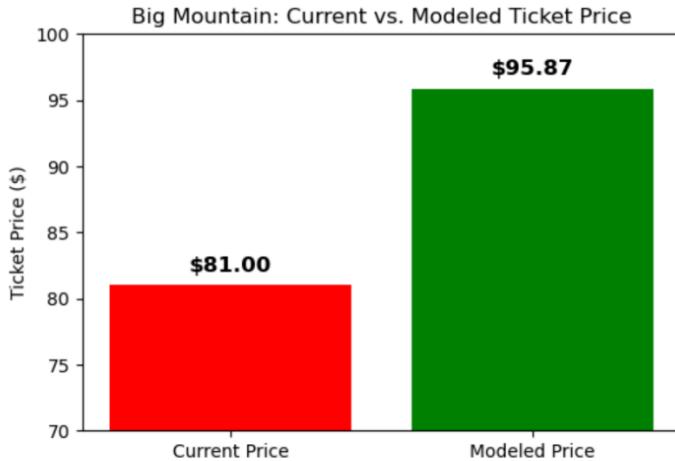
Expanding Vertical Drop:

- A **+150 ft increase in vertical drop** supports a ticket price increase.
- **Recommendation:** Consider long-term vertical drop expansions to enhance pricing power.

Optimizing Number of Runs:

- **Closing 6+ runs lowers the ticket price.**

- **Recommendation:** Maintain a balance—closing low-impact runs is fine, but too many closures reduce ticket price justification.



 **Figure 4: Current vs. Modeled Ticket Price** (This comparison shows the gap between Big Mountain's current ticket price (\$81) and the model-recommended price (\$95.87), supporting a gradual increase.)

- ◆ **Recommendation:** Investments should focus on **vertical drop, fast quads, and run variety**—as these factors directly contribute to ticket price increases.

3. What We Didn't Have & Future Steps

- **No Cost Data:** We didn't have details on staff wages or resort expenses.
- **No Customer Demand Insights:** We couldn't analyze how visitors react to price changes.
- **No Direct Competitor Pricing Data:** We compared resorts but lacked real-time pricing trends.
- ◆ **Future Steps:**
 - Collect operational cost data to determine **profitability** instead of just revenue.
 - Implement visitor surveys to measure willingness to pay for pricing adjustments.
 - Monitor competitor pricing trends to ensure Big Mountain remains competitive.

4. Next Steps for Big Mountain

1. **Adjust Ticket Prices Gradually:** Move toward a **data-validated** price of \$95.87 while monitoring visitor response.
2. **Invest in Features That Justify Higher Pricing:** Expand **vertical drop, fast quads, and total runs** rather than lower-impact investments.

3. **Use Data to Drive Decisions:** Avoid broad industry assumptions—base pricing adjustments on actual **modeled data** from similar resorts.
4. **Improve Pricing Strategy Based on Future Data:** Gather customer demand insights, competitor pricing trends, and operational costs.
5. **Test Small-Scale Changes Before Major Decisions:** Before large facility expansions or run closures, test impact on visitor response and ticket demand.

By following these **data-backed** recommendations, Big Mountain Resort can make informed pricing and investment decisions to maximize revenue while maintaining guest satisfaction.