Big Mountain Resort Analysis

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Problem Identification

- Big Mountain Resort aims to reduce operating expenses by 20% ($1,540,000) within the next financial year while maintaining or increasing current ticket prices.

- The reduction will be achieved through strategic investments and operational improvements, guided by data analytics and industry benchmarking.

- Reducing expenses is crucial to improving profitability and maintaining competitive pricing, aligning with the resort's strategy to attract more visitors and capitalize on its unique facilities.

Key Findings

- Analysis indicates that the ideal ticket price could be $95.87, compared to the current $81.00, suggesting room for price increases.

- Specific scenarios, particularly Scenario 2, present opportunities to enhance ticket prices and generate an additional $3,474,638 in revenue.

Strategic Recommendations

- Implementing additional runs, increasing vertical drop, and adding a chair lift can justify a ticket price increase of $1.99.

- Evaluate the additional operating costs of new investments against the projected revenue increase to ensure profitability.

Modeling Results and Analysis

Baseline Model and Initial Insights

- Started with predicting the mean ticket price, providing an R-squared of zero as a benchmark.

- **Key Features Identified**: Fast Quads, Runs, Snow_Making_ac, and Vertical_drop were identified as significant factors influencing ticket prices.

Modeling Results and Analysis

Random Forest Model Performance

- Random Forest model demonstrated lower MAE and less variability in cross-validation compared to linear regression, making it the chosen model.

- Consistent performance across different folds, indicating strong predictive capability.

Modeling Results and Analysis

Scenario Analysis

- **Scenario 1**: Closing up to 3 runs reduces the supported ticket price, while closing more than 3 runs does not significantly affect price further.

- **Scenario 2**: Adding a run, increasing vertical drop by 150 feet, and installing an additional chair lift could increase ticket prices by $1.99, leading to significant revenue gains.

- **Scenario 3 & 4**: Additional changes like increasing snow-making coverage or the longest run had minimal impact on ticket pricing.

Action Plan and Timeline

- Begin with Scenario 2 enhancements and monitor financial impact.

- Explore further operational improvements and potential price adjustments based on market conditions and customer feedback.

Summary and Conclusion

- The analysis identifies opportunities for Big Mountain Resort to increase ticket prices and enhance revenue through strategic investments in facilities.

- Implement Scenario 2, track its impact, and adjust pricing strategies as needed. Explore additional data collection and model updates to refine future predictions.

- Pursue Scenario 2 to balance the cost of improvements with revenue gains, ensuring long-term profitability.

Thank You