Project Report

Guided Capstone

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Problem Identification - SMART Objective

Enhance Big Mountain Resort's revenue through a data-driven ticket pricing strategy, aiming to **increase the profit margin by 20% by the end of the next financial year**. Specifically, analyze correlations between resort features, projected operating days, and geographic locations with AdultWeekend ticket prices. **Develop actionable pricing recommendations** to attract visitors and maintain competitiveness.

Problem Identification - Background

Background & Scope

Big Mountain Resort seeks data-driven pricing strategies to attract visitors and remain competitive. The project analyzes the resort's data and resort_database (330 US ski resorts) to provide pricing insights and recommendations.

The project aims to identify correlations between resort features, projected days open, geographic location, and ticket prices (AdultWeekday and AdultWeekend). Hypothesis 1 explores resort features' impact on pricing. Hypothesis 2 investigates the relationship between projected days open and pricing. Hypothesis 3 analyzes regional and state-level pricing variations.

Possible Constraints

- Limited historical data for some variables.
- Data quality issues may impact accuracy.
- Resource and time constraints may limit analysis depth.

Recommendation and key findings

Ticket Price Recommendation:

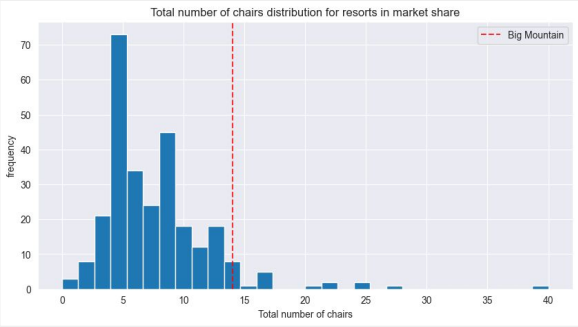
- Current ticket price: $81.00
- Recommended ticket price: $95.87 (with $10.39 error range).

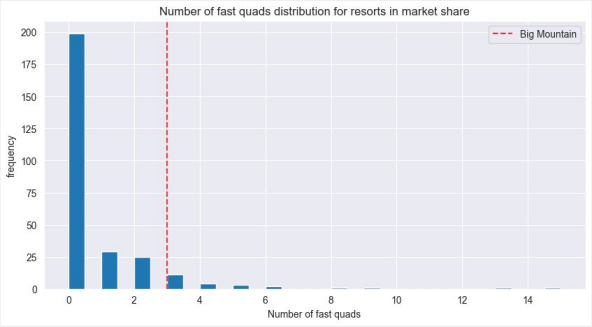
Big Mountain Resorts **Competitive Advantage**:

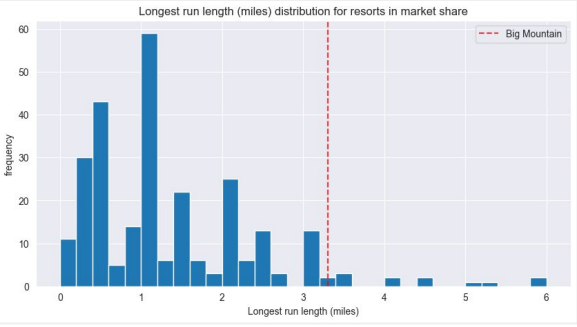
- Areas covered by snow makers (acres)
- Total number of chairs
- Number of Fast Quads
- Total number of runs
- Longest run length (miles)
- Skiable terrain area (acres).

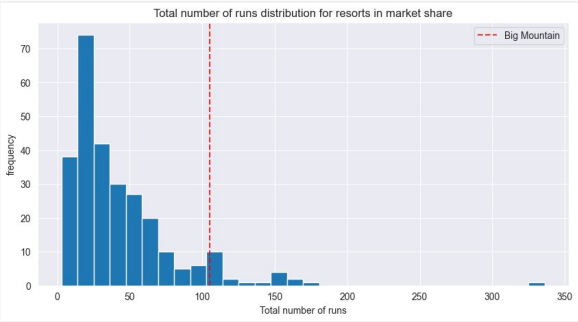
Recommendation and key findings

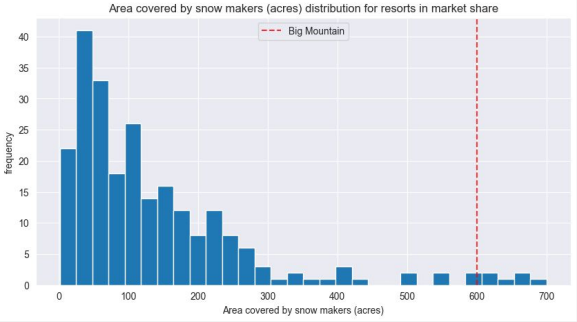
Big Mountain Resort Competitive Advantage





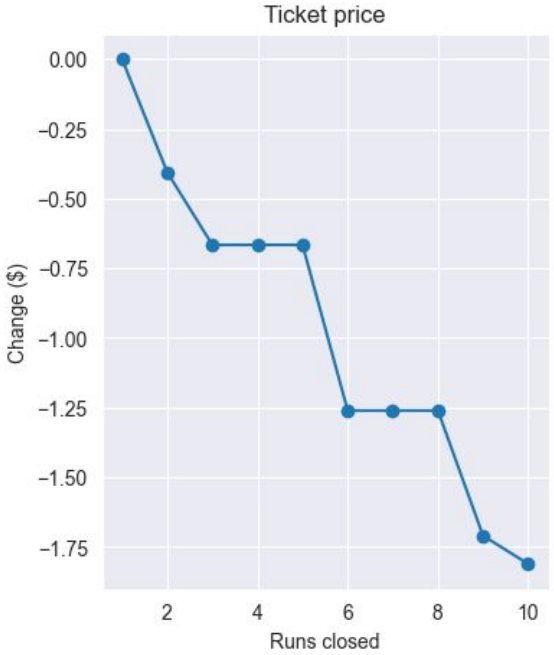


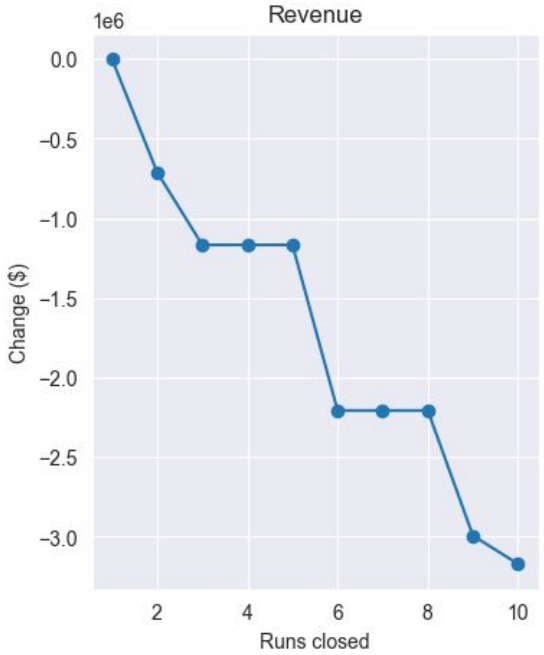




Modeling results and analysis

Scenario 1 *- Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.*





Assumption:
Each person is expected to buy 5-day tickets.

Explanation:
The model says closing one run makes no difference. Closing 2 and 3 successively reduces support for ticket price and so revenue. If Big Mountain closes down 3 runs, it seems they may as well close down 4 or 5 as there's no further loss in ticket price. Increasing the closures down to 6 or more leads to a large drop.

Modeling results and analysis

Scenario 2 *- Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage*

This scenario increases support for ticket price by **$1.99**. Over the season, this could be expected to amount to **$3,474,638**.

Scenario 3 *- Same as number 2, but adding 2 acres of snow making cover*

Result was same as Scenario 2.

Scenario 4 *- Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres*

$0 ticket price increase.

Summary and conclusion

Ticket Price Recommendation:

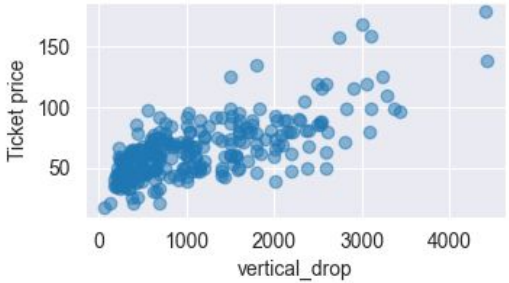
- Current ticket price: $81.00
- Recommended ticket price: $95.87 (with $10.39 error range).

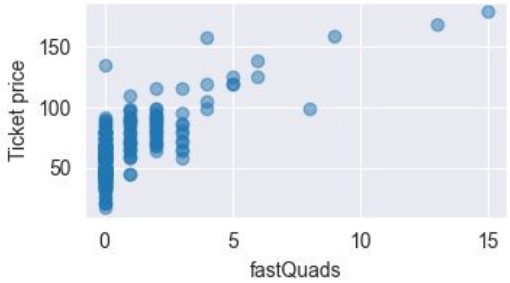
Future scope of work

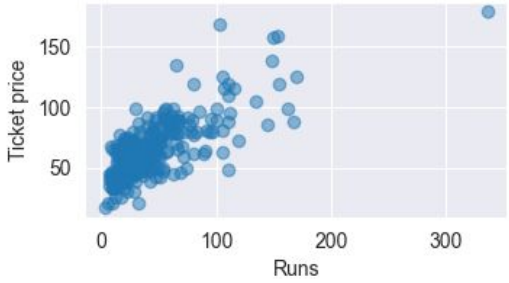
- Add additional data point: operating cost data, number of visitors across US, customers willingness to pay premium price for more features.
- Test the model with different scenarios by cross-functional business experts.

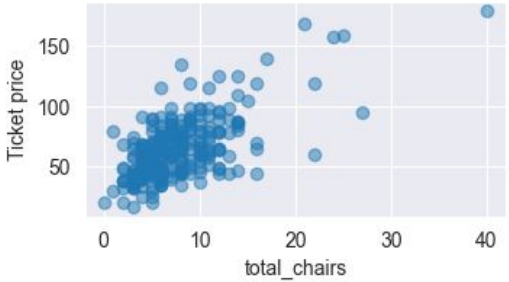
Appendix 1

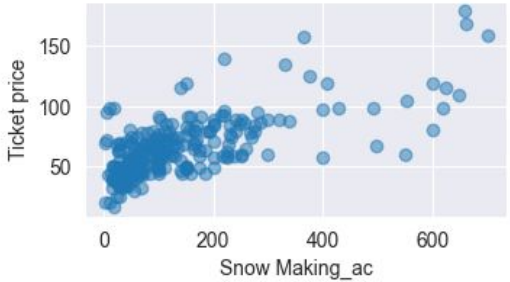
Features where there are possible correlations with “AdultWeekend” ticket price:

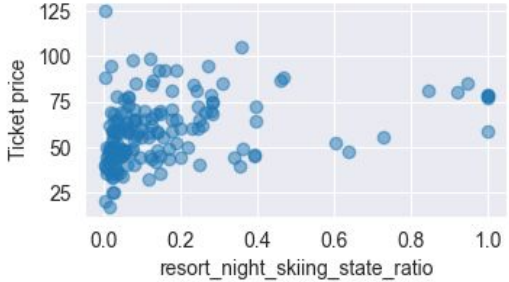












Appendix 2

Top-4 Features and Recommended Sample Size.