Big Mountain Resort - Guided Capstone

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Overview

Business Overview

Big Mountain Resort, a popular ski destination in Montana, is facing challenges with its current pricing strategy. Despite offering stunning views and a variety of trails, there is a suspicion that the resort may not be maximizing its facilities and is not fully capitalizing on its market potential. The recent addition of a chair lift has increased operating costs, prompting the need for a more data-driven business strategy.How can Big Mountain resort develop and implement a data-driven approach to pricing that considers factors such as trail difficulty, lift accessibility, and other amenities, in order to achieve a 30% increase in ticket profits by the end of the next ski season?

Problems to solve

1   Identify Key Facilities Impacting Visitor Experience
- Determine which facilities contribute the most to visitor satisfaction and overall experience.
- Analyze data to identify the most popular trails, lifts, and amenities.

2   Optimize Ticket Pricing Model
- Set ticket prices based on the perceived value of the overall skiing and snowboarding experience.
- Develop a data-driven pricing model that takes into account the importance of different facilities.

3   Cost-Cutting Analysis:
- Evaluate the impact of the new chair lift on visitor distribution and overall satisfaction.
- Explore cost-cutting measures that do not compromise the quality of the skiing experience.

Modelling Overview

I employed machine learning models, including linear regression and random forest, to predict ski resort ticket prices. The models were trained, evaluated, and feature selection techniques were applied, highlighting key factors like vertical drop, snowmaking acreage, and fastQuads. The Random Forest model outperformed linear regression in cross-validation and testing, and it was leveraged to assess the revenue impact of various client-proposed scenarios, guiding strategic business decisions.

Weekday & Weekend Ticket Price by State

Number of fast quads distribution for resorts in market share

Ticket price — Revenue
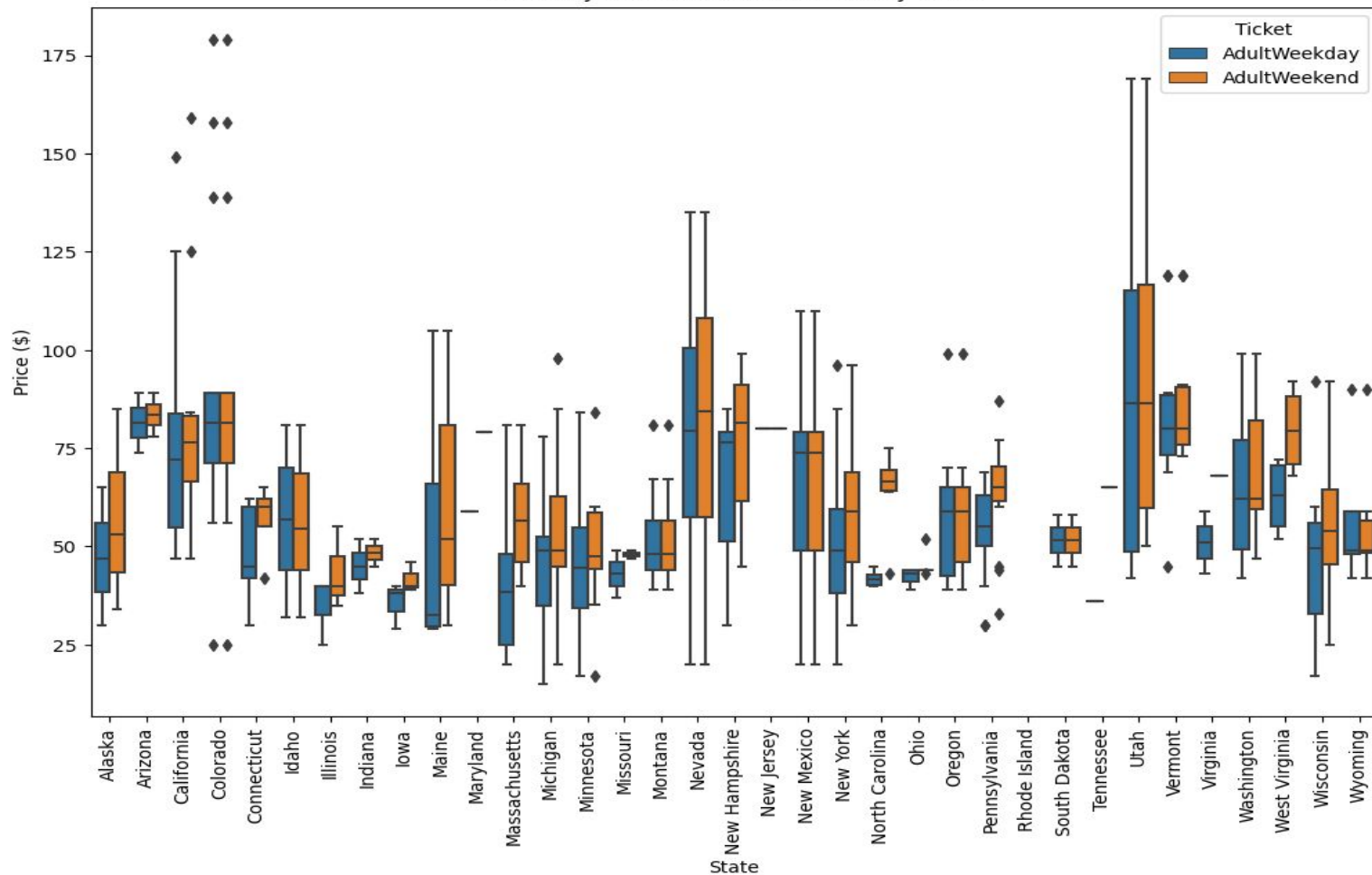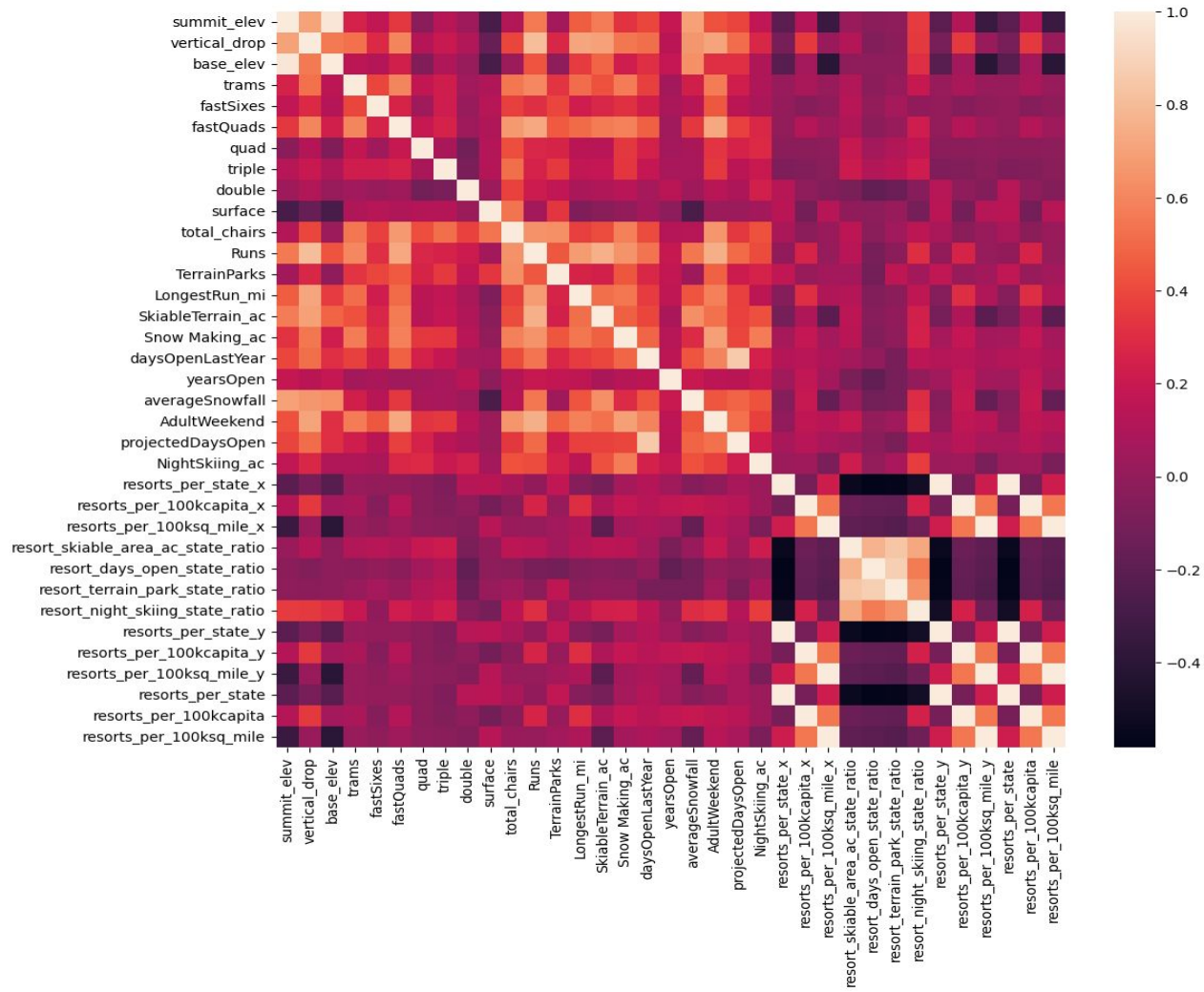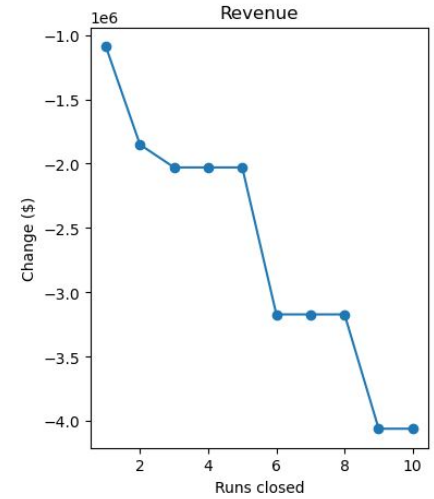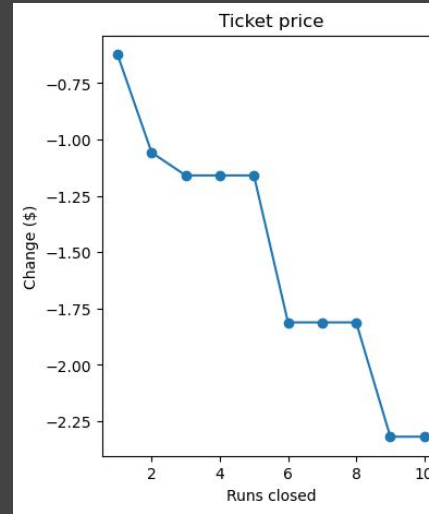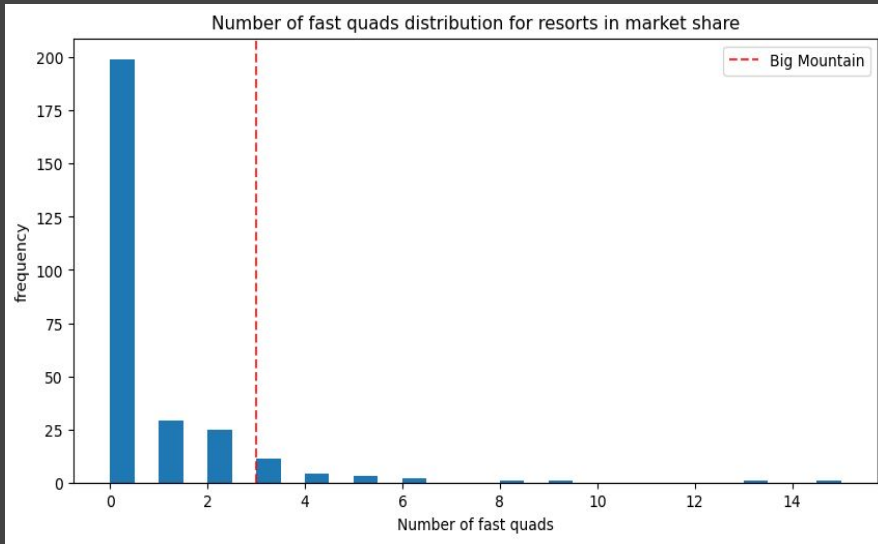
Big Mountain Current Ticket Price: $81
Model predicted increase: $1.99*

Limitations:
- Our analysis was limited due to a lack of data surrounding key factors that might influence ticket pricing. I suggest acquiring data on visitor numbers, operational costs, rental equipment, and revenue from rentals for more accurate modeling.

Recommendations

1. Utilize the predictive models, especially the random forest model, to inform pricing decisions to gain an optimized pricing strategy. I recommend exploring tiered pricing models based on facilities, especially focusing fast quads based on Big Mountain's league rank.

2. Invest in snow making technology and increased vertical drops. Given the positive correlation between snowmaking acreage and ticket prices, consider investing in snowmaking technology to enhance skiing conditions and potentially justify higher ticket prices. Also, as vertical drop was identified as a significant positive feature, consider ways to enhance or market the resort's vertical drop to attract visitors

3. Engage in a marketing focus to highlight key facilities that customers value like the ones mentioned above. Emphasize the unique aspects that contribute positively to ticket prices.

Conclusion

Our analysis provided valuable insights into factors influencing ticket prices, enabling informed decision-making for Big Mountain Resort. Further enhancements and exploration of scenarios are recommended for continued business optimization. Regular updates to the models and continuous monitoring of market trends will ensure the resort remains competitive and aligned with customer expectations.

Thank you.