



BIG MOUNTAIN

Modeling the right ticket price

PROBLEM IDENTIFICATION

STATEMENT

What is the best ticket price or the best way to reduce operation costs at BMR so that we can see a minimum of a 20% increase in revenue by the end of the year without decreasing the quality of the service nor the 350K visitors per year; basing the ticket pricing or cost caps on market share and competitors' data.

STAKEHOLDERS TO PROVIDE KEY INSIGHTS

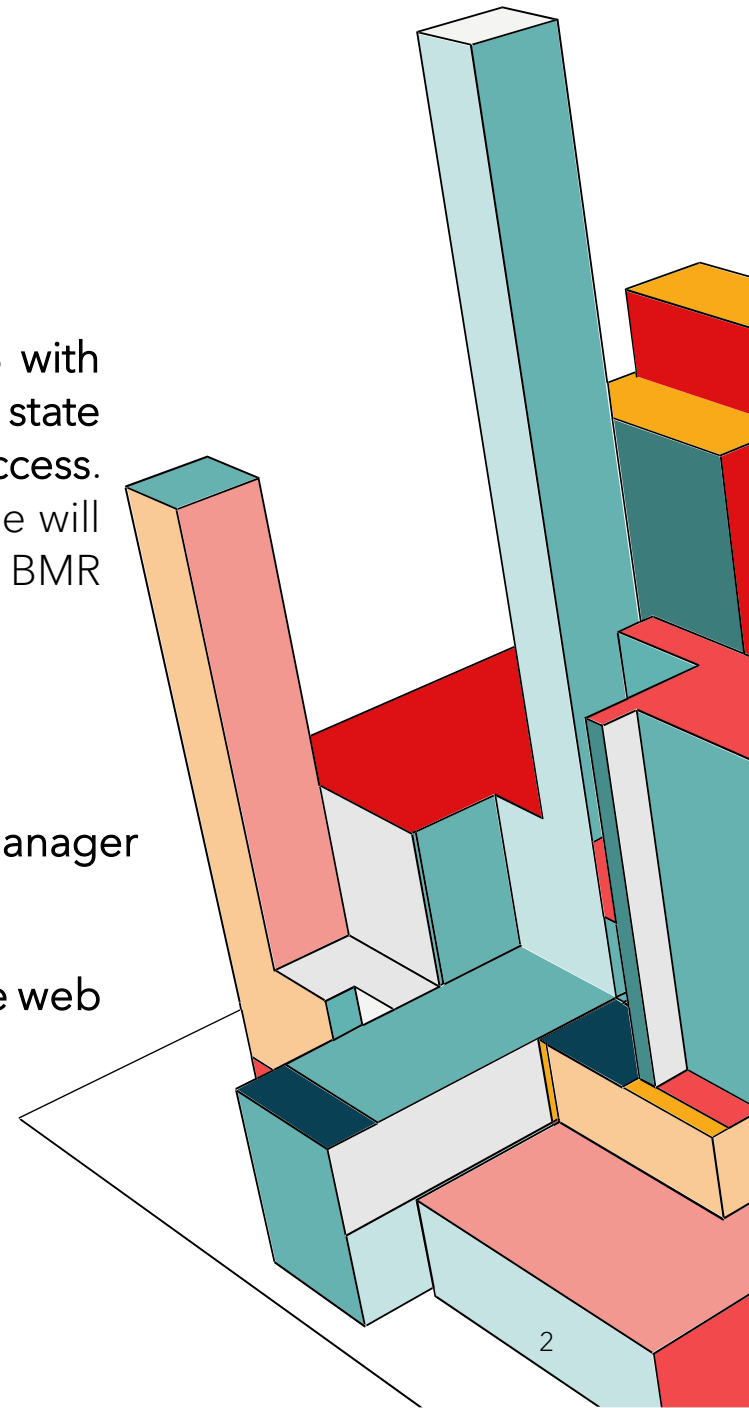
- Director of Operations - Jimmy Blackburn
- Database Manager - Alisha Eisen
- BMR Montana Administration
- BMR Investment Strategists

SCOPE OF SOLUTION SPACE

Dataset: 330 other resorts in the US with almost 29 features and state population/territory data of public access. Ticket pricing and cost caps applicable will be implemented and tested on BMR Montana.

KEY DATA SOURCES

- CSV File Provided by the DB Manager with data of 330 ski resorts.
- State Data publicly available on the web



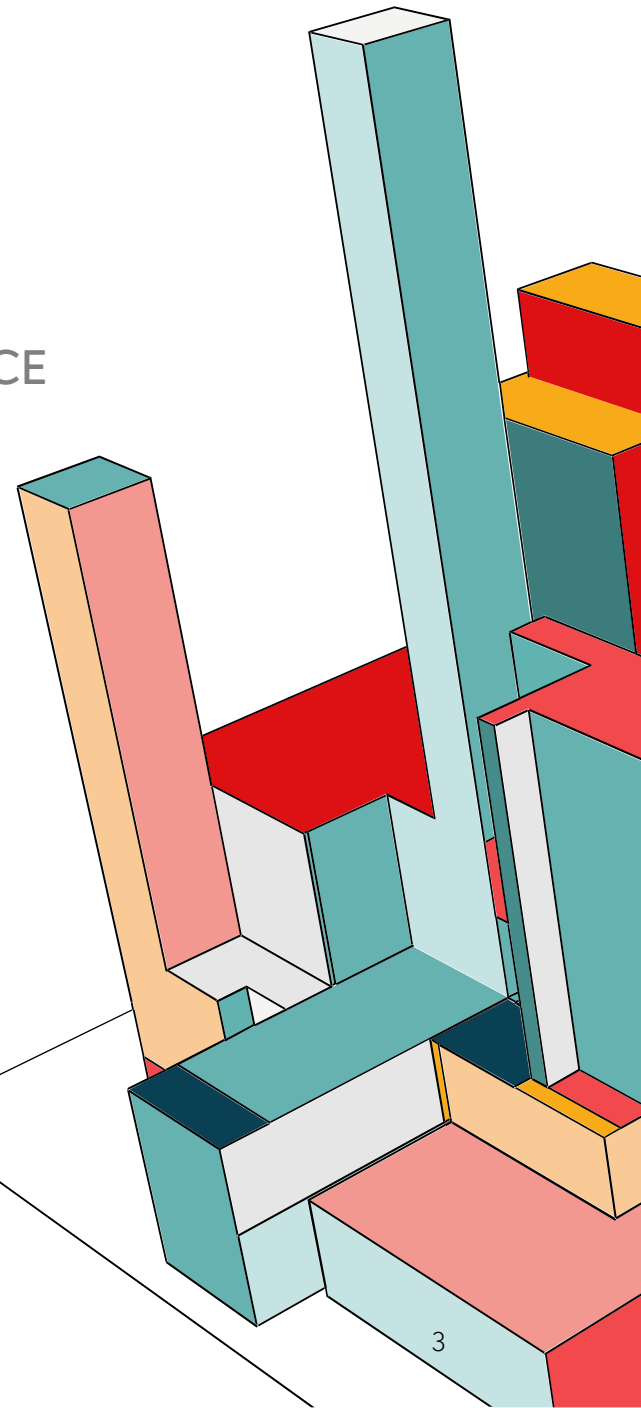
PROBLEM IDENTIFICATION

CRITERIA FOR SUCCESS

- Define a **higher ticket price that can hold no less than 350K visitors** per year.
- Determine if there are **any costs to reduce** and which ones.
- **Increase the yearly revenue** by no less than 20%
- Determine **key differentiators on market share dynamics** based on competitor's analysis for future and current considerations.

CONSTRAINS WITHIN SOLUTION SPACE

- Not getting **significant data** from the CSV file provided to make conclusions on good pricing strategy or cost caps.
- Face **customer resistance** to higher ticket prices.
- Choose the **wrong field to reduce costs** on that could decrease quality in the services or that could bring greater unseen costs to the overall operation.
- Estimating a **non-competitive price for the ticket**.



KEY FINDINGS AND RECOMENDATIONS

How we can better price out ticket and what we need to consider

Key Resort Features to Consider for the Modeling

Vertical Drops
Snow Making Area
Total Number of Chairs
Fast Quads
Runs
Longest Run
Trams
Skiable Terrain Area

Recommendations and Considerations

Feasible to increase the ticket price by almost a 18% more

considering that the market is accurate. Sufficient evidence supporting an increase in ticket price.

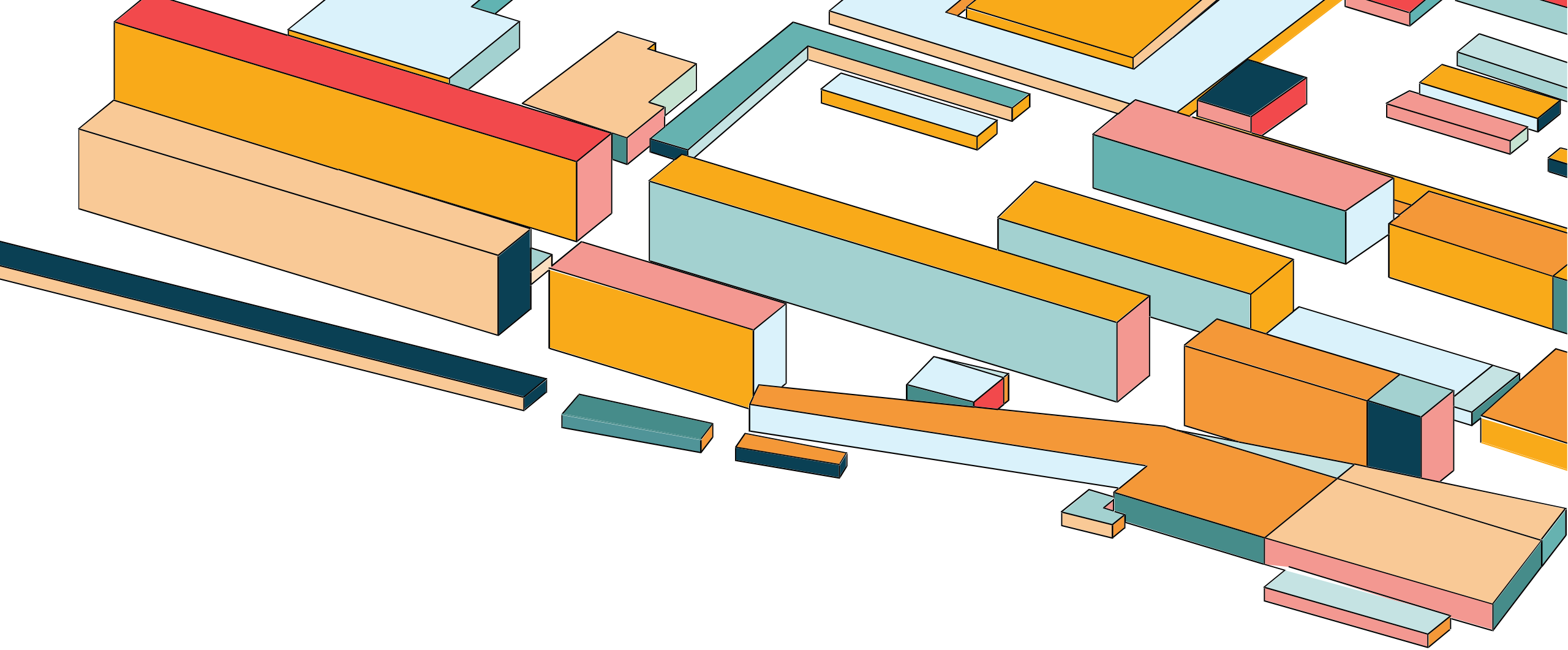
To consider a sustained bold approach or a test/conservative

Ticket Price & Best BI Scenario

ACTUAL Ticket Price: \$81.00

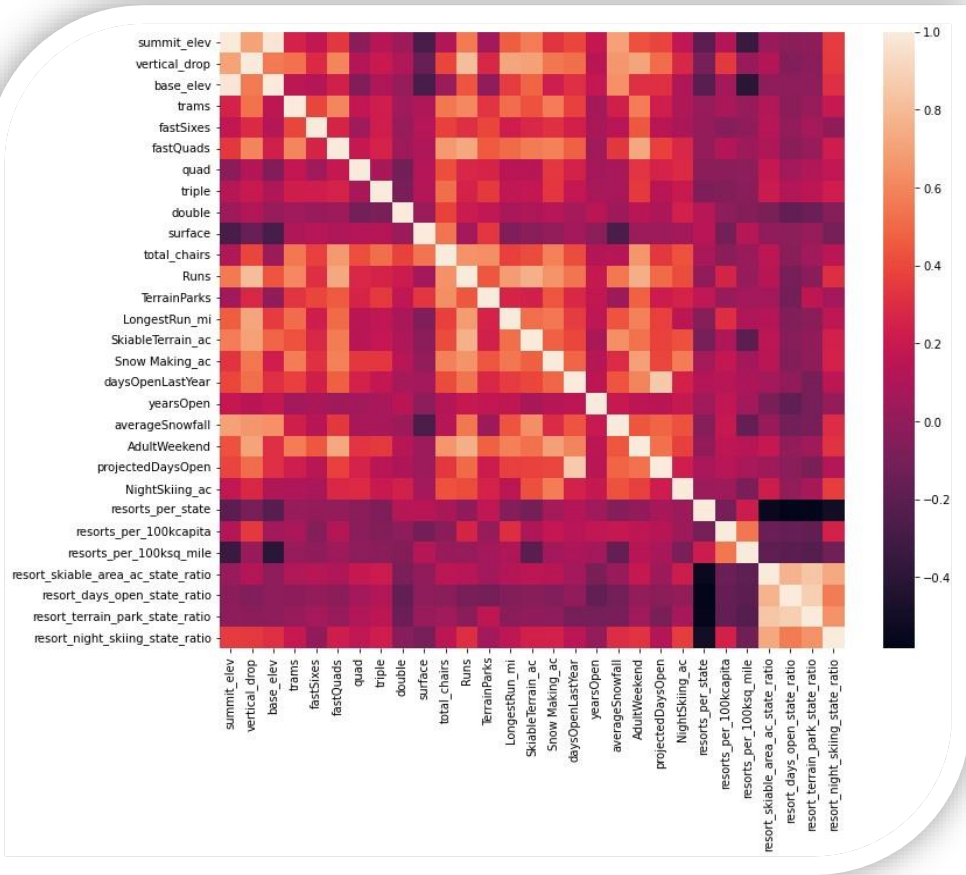
MODELED Ticket Price: \$95.87

Scenario 2 increases support for ticket price by \$1.99 USD.

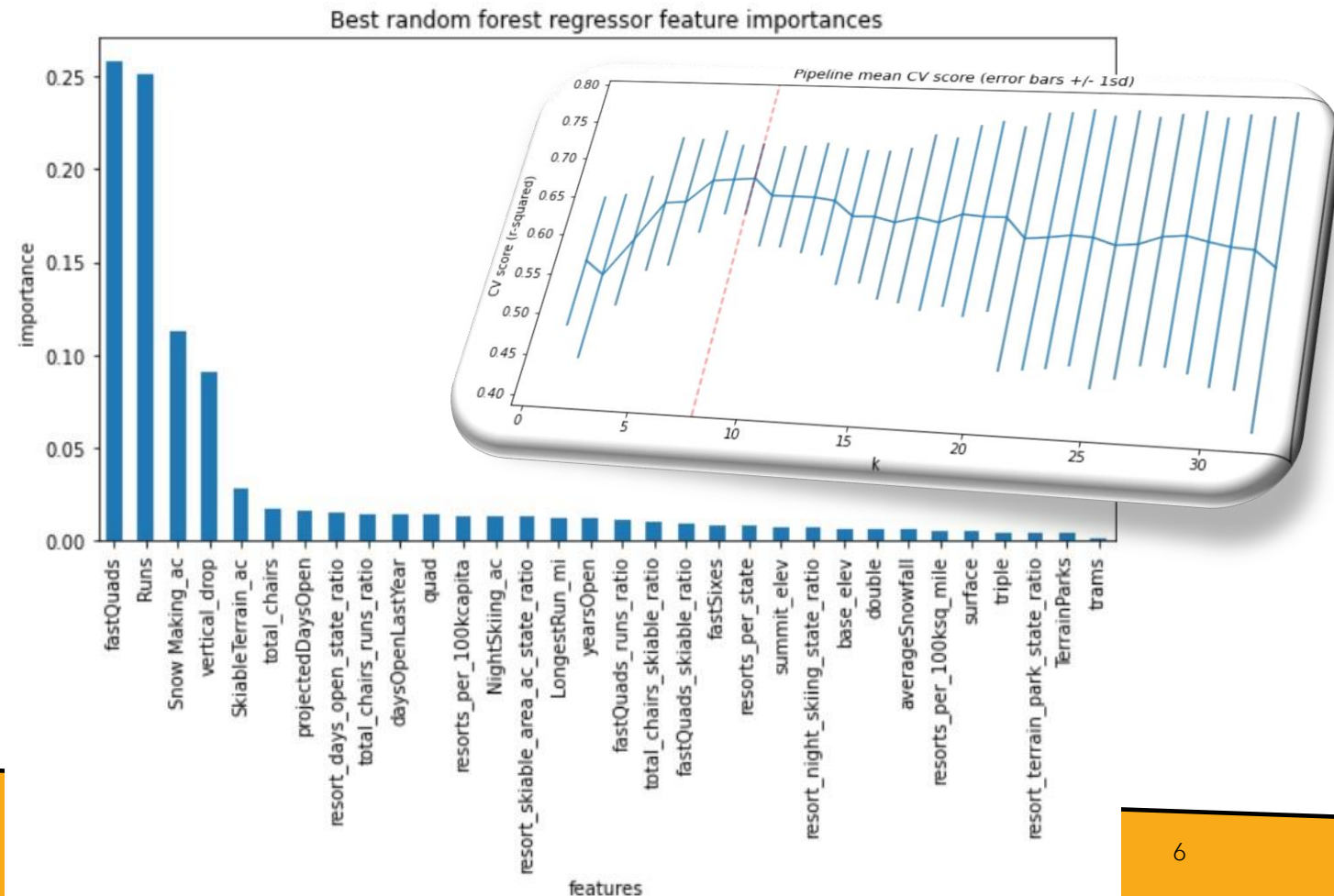


MODELING RESULTS AND ANALYSIS

MOST IMPORTANT FEATURES



Afterwards, an **Estimated Importance Score** was computed. A further sub-selection of 8 features with the highest variable Cross-Validation Scores.

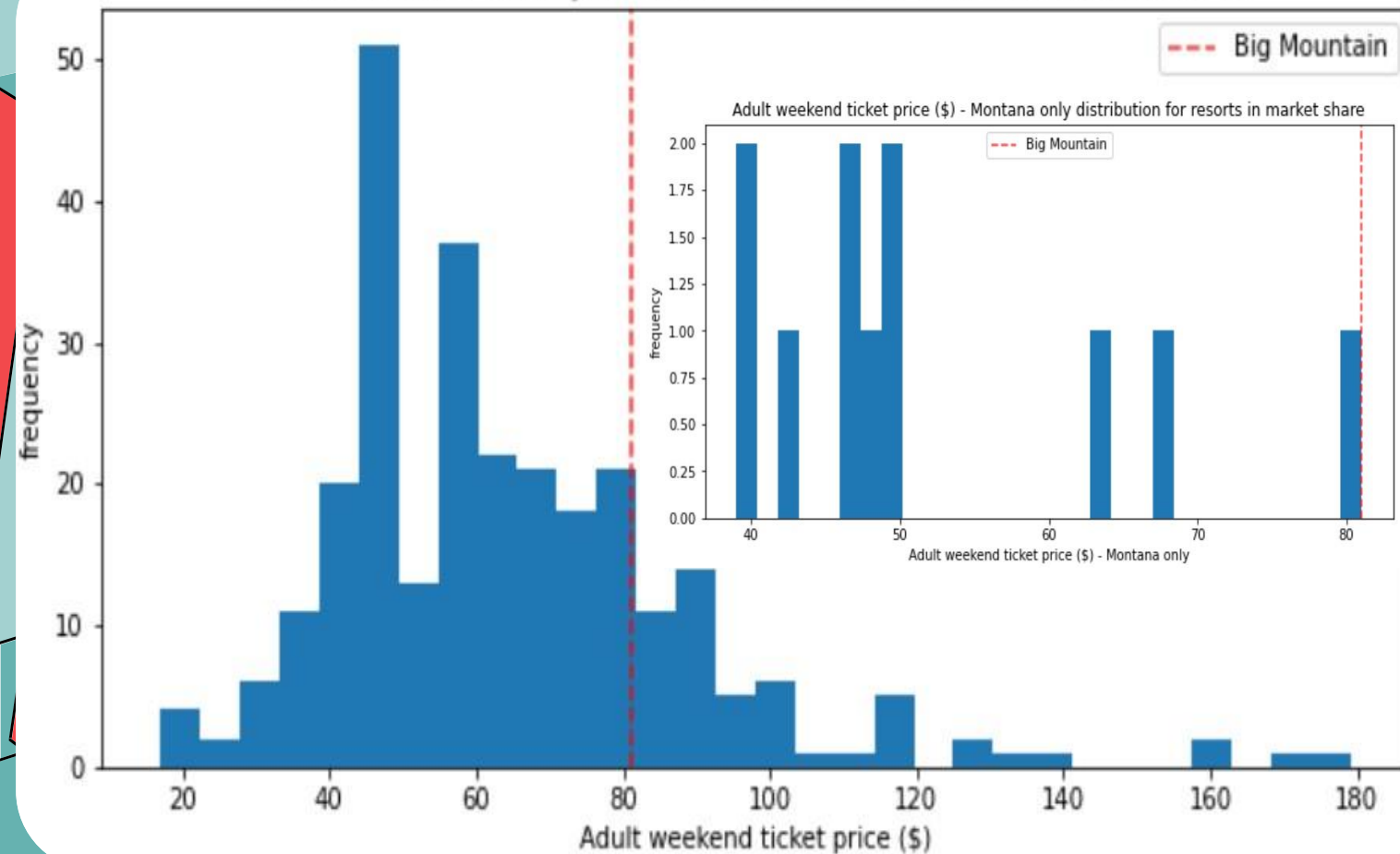


The most important features determined by a correlation matrix.

Feature of interest: **Weekend Ticket Price**. The ones more correlated were selected as a first step.

ACTUAL TICKET PRICE ANALYSIS

Adult weekend ticket price (\$) distribution for resorts in market share



Above the mean of the distribution of all resorts in the US (not in Montana only...)

Given the uniqueness that BMR shows in some of its features, BMR could land more to the right of this distribution.

BMR might be undercharging

If we are mispricing, are others? It's reasonable that some resorts will be "overpriced" or "underpriced." Or if resorts are pretty good at pricing strategies, it could be that our model is lacking some key data?

ANALYSIS OF FEATURE UNIQUENESS

VERTICAL DROP (2400 feet), RUNS (around 110)

Doing well. There are still quite a few with a greater drop and/or runs. But not too many

SKIABLE TERRAIN (3000 acres)

Amongst the resorts with the largest amount.

TOTAL NUMBER OF CHAIRS (14)

Amongst the highest number.
Chairs, resorts with more chairs appear to be outliers.

SNOW MAKING AREA (600 acres)

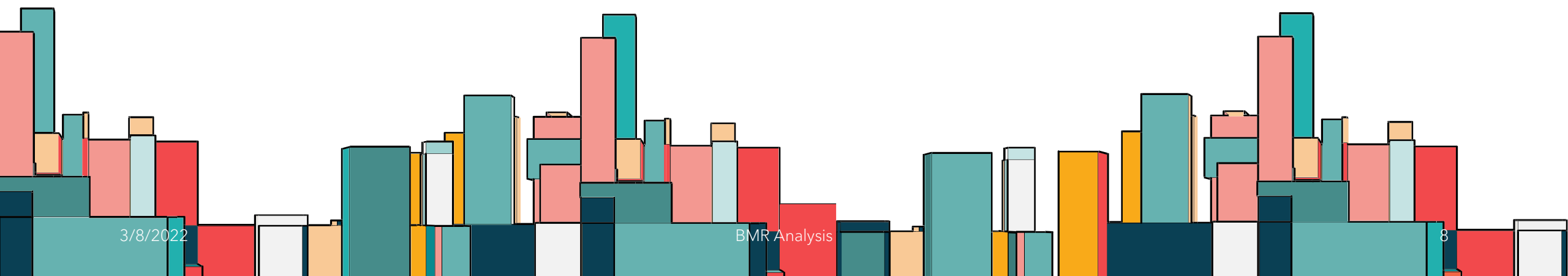
Very high up the league. A couple ranging on the same area and some other greater.

LONGEST RUNS (around 3.3 miles)

One of the longest ones. Just over half the length of the longest. The longer ones are rare.

FAST QUADS (3)

High up that league table.
There are some others with values much higher, but those are rare.



BI SCENARIO SELECTION

4 scenarios were tested and modeled with different inputs to check the impact on ticket pricing.

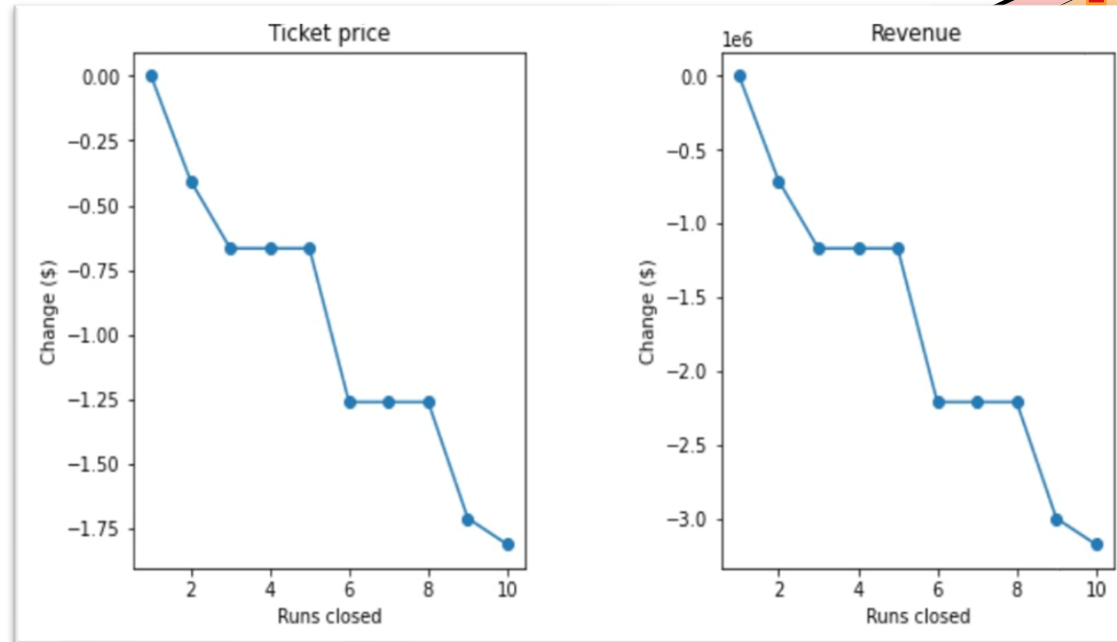
Scenario 2 is the most feasible.

Considerations:

\$0.88 USD: to cover the new lift chair (\$1.11 USD supported increase).

If the second new chair will be as expensive as the first one: \$0.23 USD supported increase.

EXAMPLE OF ANALYSIS ON SCENARIO 1



Scenario 1

- One run: no difference.
- 2 and 3 reduce support for ticket price and revenue.
- 3 runs is the same as closing 4 or 5
- 6 or more leads to a large drop.

SUMMARY

Option A:

Ticket price in \$95.00 USD.

For further and better insights, an additional analysis on customer resistance and the second new chair costs it will be worthy to consider.

Option B:

Ticket price in \$87.00 USD as a safe move.

For covering the costs of the new chair and leaving some margin for the second new chair required at Scenario 2

- Data to consider for future work:**
- **Operation costs** in BMR
 - **Operation costs** in other resorts (if possible)
 - **Customer surveys** for sentiment analysis or to determine which feature they value the most
 - **Visitors per resort**
 - Enough data to consider **Weekday Ticket**

THANK YOU

Pablo Ruiz Lopez

+52 55-2729-6472

pablweb8@gmail.com

<https://github.com/pablo-git8>