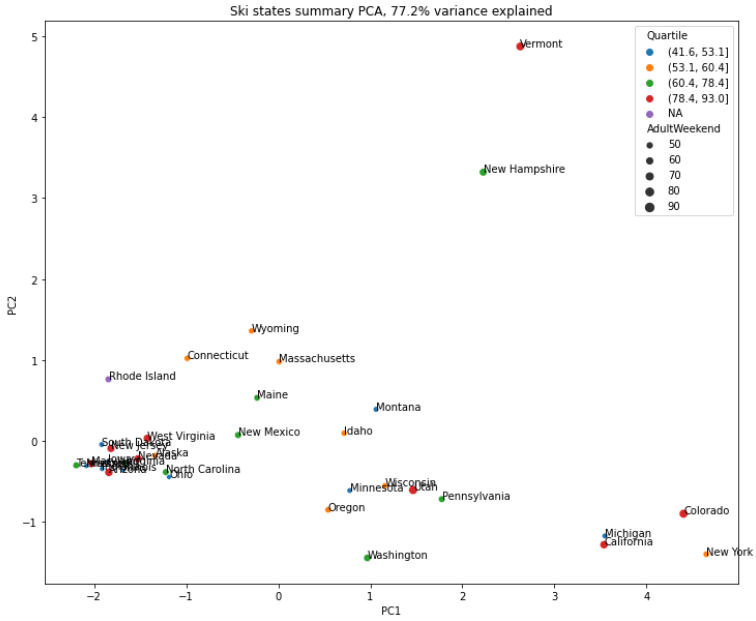
Guided Capstone Project Report:

Relative to competitors around the country and in relation to the amenities provided, the fundamental objective of the client, Big Mountain Resort, is adjusting the current ticket pricing of $81 while subsequently mitigating or increasing expenditures to account for the additional operating costs associated with the recent installation of a new lift.

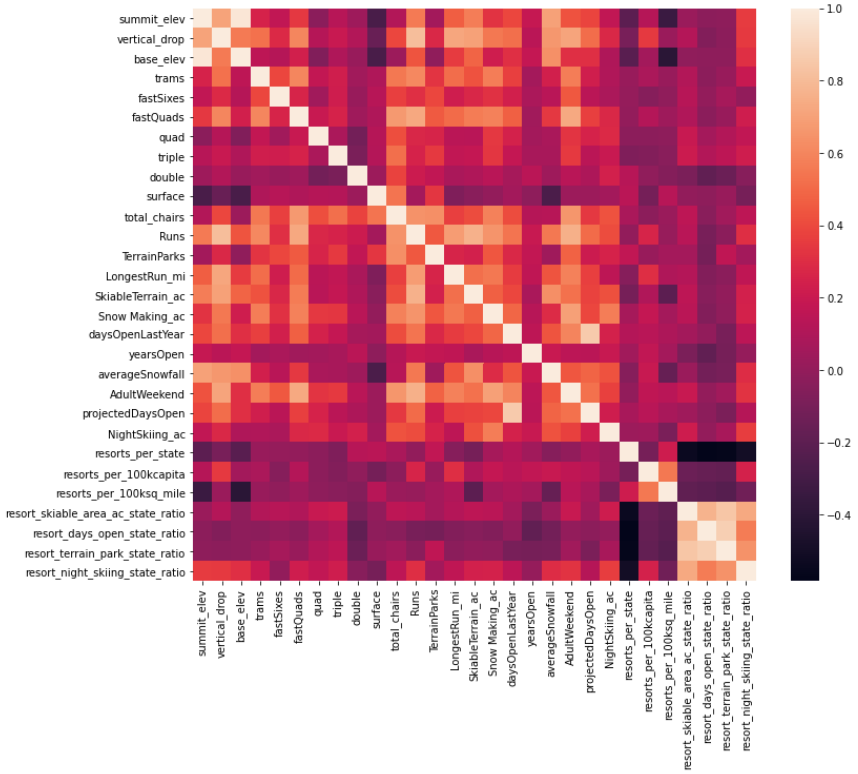
That is, how is an increase in revenue of $1,500,000 achievable within the upcoming projected ski season of 124 days?

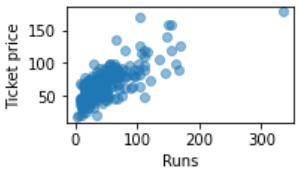
For a majority of states in the US, ticket pricing ranged within $25 to a little over $100 with some exceptions. As established by the client, all of the resorts should be taken into consideration as they are considered part of the same market share. However, the first relationship observed was that the total number of resorts per state and the state's total skiable area in acres showed the strongest correlation.

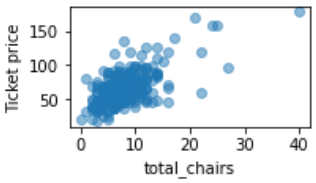
What this information illustrates is that the majority of resorts, including Montana, are proportionally sharing their respective state's total skiable area with their competitors. For example, Vermont has 15 resorts sharing a total skiable area of 7200 acres, and this can be further extrapolated to see how these factors affect ticket pricing.

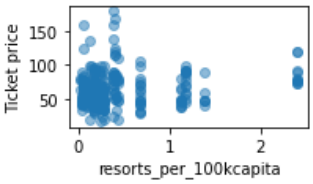


The following heatmap was used to spot the variables with reasonable correlations to ticket pricing. In addition to the vertical drop and total acres of machine made snow, the number of runs, quad lifts, and total chairs showed a discernible relationship.



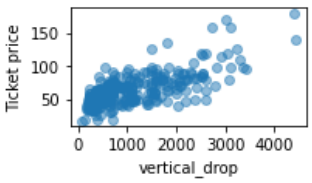




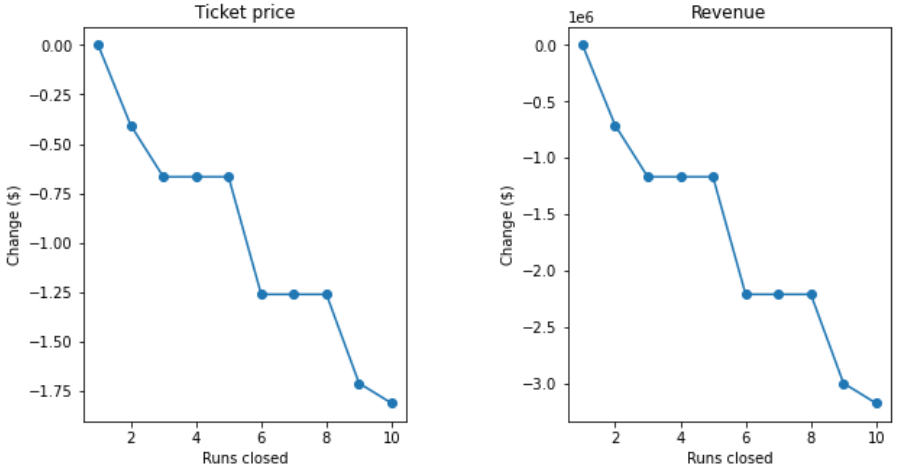


Zeroing in on this information clarified this, as a resort's price increased when there were more chairs and runs. The scatterplot for the total number of resorts per 100,000 people showed a more interesting yet innate correlation since the less resorts there were, the higher the price was. This is likely due to factors related to demand and competition in these areas.

Ultimately, these observations needed to be applied to the client's use case and the features to have the strongest impact on ticket pricing were the vertical drop and acres of snow making. These 2 features were used in conjunction with 6 others to build a model and discover that at this time, Big Mountain Resort can justify a price increase to $96 a ticket with a $10 margin of error. That is, the current price of $81 can be increased to a minimum of $85 without the need for an increase in operational costs.



The results of the presented scenarios were also taken into consideration, conclusively determining that 2 out of the 4 options had the most viability and perceived impact. A refurbishment of the longest run and increase in the vertical drop would rationalize a greater price increase, but incurs higher operational costs.



A proposed solution would be to raise the current price of tickets from $81 to $90 and cease operation of 5 out of the 10 least utilized runs. As shown in the graph, the financial repercussions of closing 5 runs is negligible compared to 10, as it only lowers the support for ticket pricing by 75¢ instead of $1.75. Therefore, while a minimum increase to $85 is imperative, a larger increase is justifiable. In combination with the closure of underutilized runs, a decrease in expenditures and increase in revenue is achievable for the upcoming season.