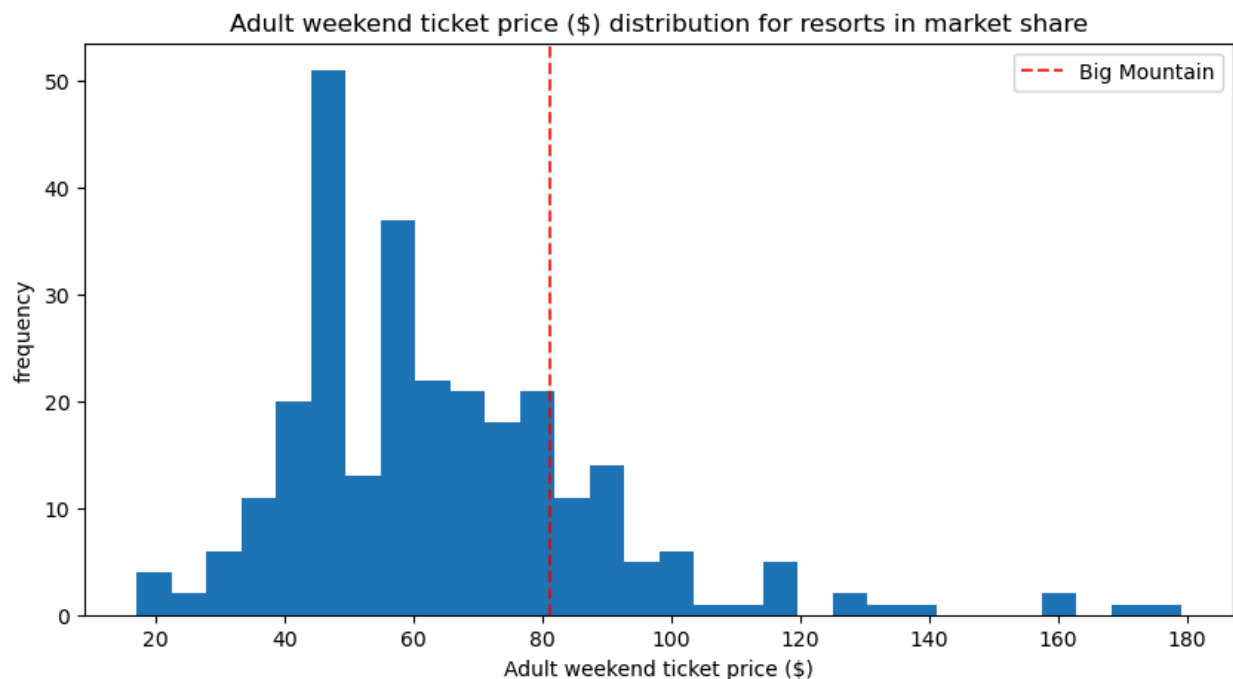


Big Mountain Resort is seeking opportunities to support their recent \$1.54M increase in operational costs for this season, as well as maintaining profits at or above 10% and gaining insight into how to optimally capitalize on their facilities over the next year.

The analysis process was begun by wrangling and cleaning the provided ski data, performing EDA to determine which data parameters would be most relevant and important for the analysis, and creating and training a model to access the data.

In the modeling stage, the trained model was used to test the Big Mountain Resort data set and consider next steps for further analysis and adjustment in order to achieve the resort's goals. Using the model, it was noted that Big Mountain's actual ticket price of \$81.00 is significantly lower than the modeled price of \$95.87. This suggests that Big Mountain Resort likely does have room for a ticket pricing increase, with the important caveats that mean absolute error expected from the model is \$10.39 and the recognition that other members of the market share could also be "underpricing" themselves as Big Mountain is and thus skewing the model.

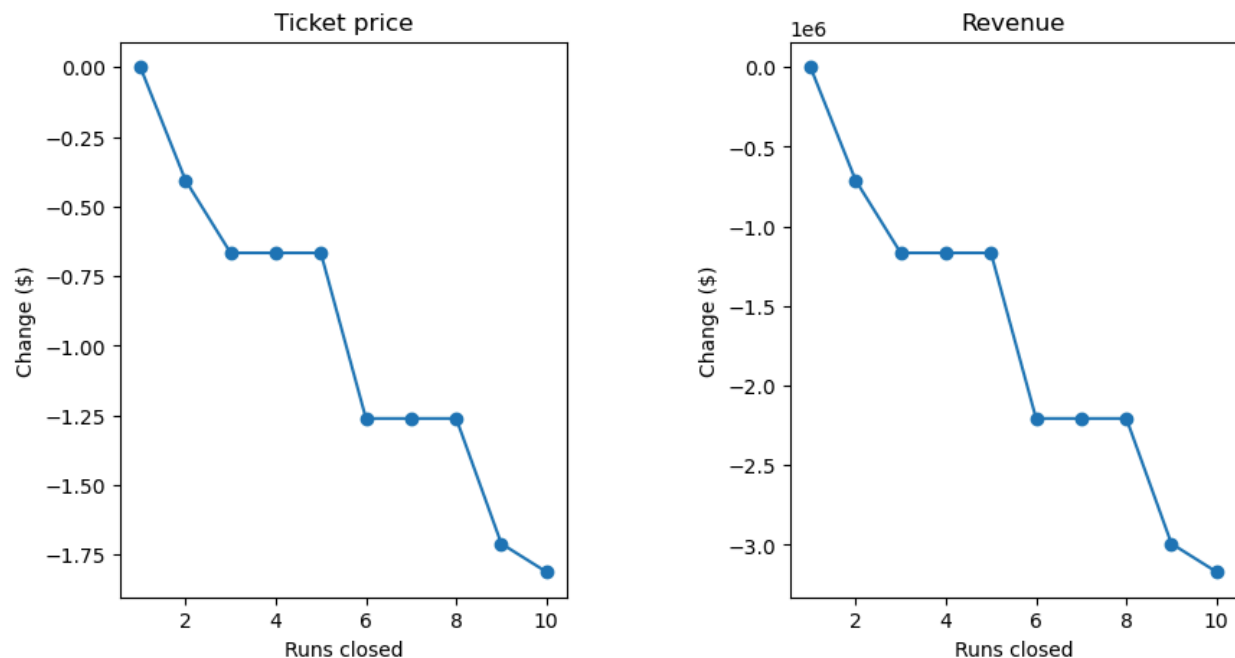
The histogram below shows adult weekend ticket prices for all the resorts in the market share, both inside and outside of Montana, with a red line indicating that Big Mountain "sits" slightly above average but not egregiously. Other data analysis shows that Big Mountain's facilities are well above average for the market share and thus this pricing is reasonable and even, per the model, low.



Several plots were created to compare Big Mountain Resort's offerings and facilities to those of its competitors both in the state of Montana and outside. From there, four scenarios of possible operational adjustments and upgrades were modeled, providing some insight into which options should be pursued and which are not worth consideration.

Ultimately, Scenarios 2 and 1 (modified) presented the strongest opportunities for efficiency and operational cost savings for the resort. In Scenario 2, Big Mountain would add a run, increase the vertical drop by 150 feet, and install one more chairlift. In Scenario 1 (with modifications), 1-5 of the least-used runs would be closed permanently.

The model below indicates why the original description of Scenario 1 -- closing 10 runs -- should be altered to close only 1-5. Closing only one run results in no negative financial consequence, while there is a notable drop between one and two and two and three runs. There is no change of closing three runs or closing five, so if the resort decides to close three, they might as well close five. Beyond that, however, there is a steep drop to six and then more drops down to ten.



Big Mountain Resort should continue analysis and even testing of these options, as both could have significant payout to both lower operational costs while still allowing the resort to increase its prices and remain very competitive in terms of facilities and offerings available. Scenario 1 could be tested by closing individual runs at specific times during the season to generate real-world data with relatively low risk. Scenario 2 would require more capital investment and risk for any real-world testing, but the model indicates very significant benefit to the decision.