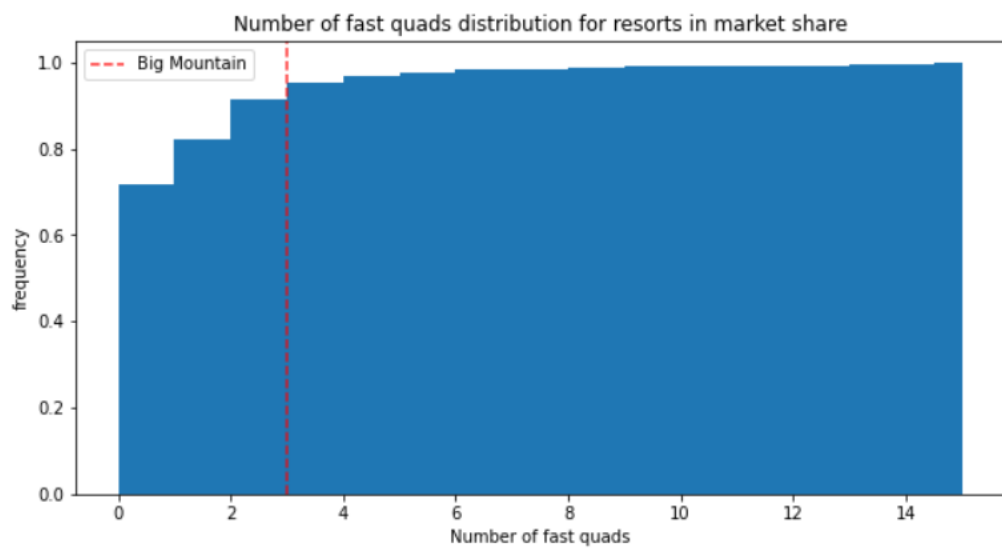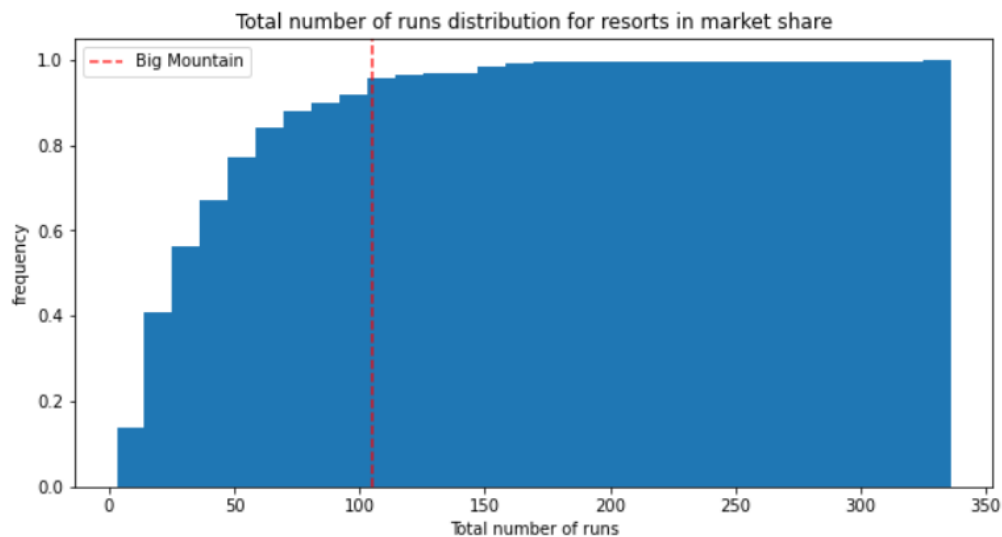Guided Capstone Project Report – Big Mountain Resort

Big Mountain Resort in Montana wants to update its pricing model to better utilize the facilities it offers. Currently, Big Mountain is charging $81 per ticket on its weekend prices, and our data science team built a predictive model based on the facilities that are most correlated with pricing to determine whether the business can justify a price increase.

The model determined that Big Mountain can be priced at $95 +/- $10 per weekend ticket, which is significantly higher than our current price. This prediction can be due to a number of reasons – Big Mountain is underpricing its tickets by only looking at the market average, there are other factors that determine ticket pricing that we did not use in our model, prices are lower to incentivize customers to choose Big Mountain over another resort, etc.

Our analysis shows that Big Mountain ranks high compared to its competitors in the facilities that are most correlated with pricing, namely # of runs, # of fast Quads, and amount of snowmaking. Looking at the graphs below, we see that Big Mountain is in the 90th+ percentile for each of these facilities.

Guided Capstone Project Report – Big Mountain Resort

Area covered by snow makers (acres) distribution for resorts in market share
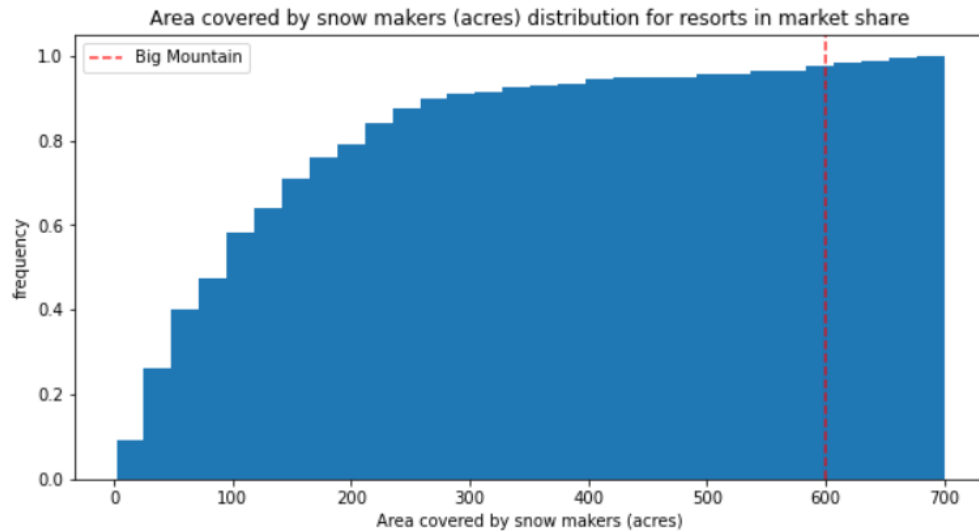
When we take a look at the pricing graph, we see that Big Mountain's current price is only in the top 80th percentile, showing that it is very reasonable for Big Mountain to charge more for its weekend tickets.

Adult weekend ticket price ($) distribution for resorts in market share
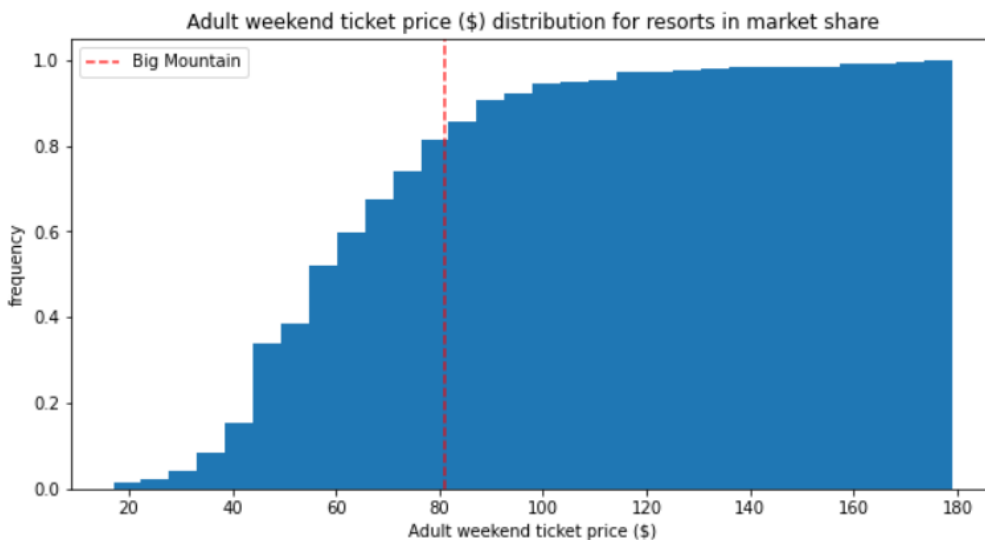
The new chair lift that was installed increases operational costs by $0.88 per weekend ticket, assuming 350,000 visitors this season and each visitor buys 5 tickets. Therefore, the baseline price increase should be $1/ticket.

Additionally, Big Mountain can consider shutting down 1 of its least popular runs with no effect to pricing to decrease operational costs, or even shutting down 5 runs at -$0.70/ticket, depending how much it costs to maintain these runs. For long term investments, we can explore increasing the vertical drop by 150 ft, which can increase ticket prices by $2. Understandably, this will also increase operational costs (installation of a chair lift, maintenance), so further analysis can be done to determine the timeline and quantity of additional revenue.

To summarize, the data science team determines that a weekend ticket price increase of $4 (to $85/ticket) to cover the operational cost of the new chair lift is justified based on the facilities Big Mountain offers. This puts Big Mountain's ticket price at the low end of the predicted ticket value. On top of this, there is still room to further increase prices by $10-$20 without adding additional facilities, depending on how competitive the business wants to set its prices.