

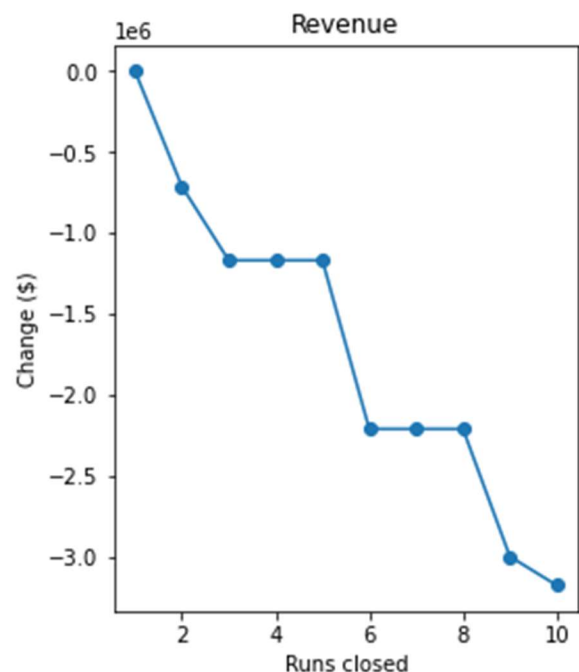
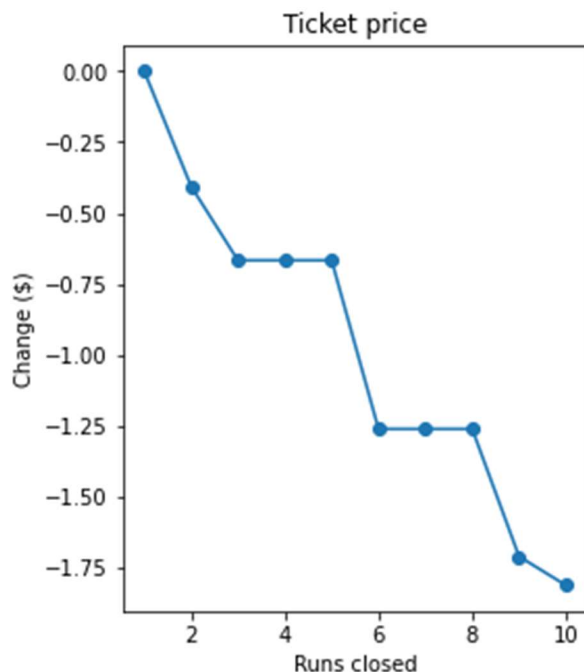
Big Mountain Resort Ticket Price

a. Recommended Ticket Price

To compensate for the cost of an additional lift which is about \$1.5 mil, Big Mountain Resort has to increase its price ticket, which is \$81.00 currently, or lay down some facilities. By comparing the weekend price and features of over 300 resorts across the country, a Random Forest model suggests Big Mountain should charge \$95.87 per ticket with an absolute error of \$10.39. If the number of visitors on average, which is around 350,000 last year, does not change with this increase in price ticket and the customers ski for five days, the price increase will net the resort approximately \$26 mil in profit. This is enough to compensate for the newly installed lift. If the resort wants to pay for the lift cost, it must increase the price to \$81.88. To be safe, the resort can increase the price to the lower end of the absolute error from the model, which is around \$85.00.

b. Facilities Modification

Besides calculating the suitable ticket price, the model was also used to investigate different scenarios that the resort can implement to maximize its earning. One of them is closing to 1 or 5 least used runs. As shown in the figure below, closing down at least one run should not decrease the ticket price in addition to reducing operating costs. Another good case is to increase the maximum vertical drop by 150 feet. This will allow the ticket price to increase by \$1.99, which will result in around \$3.5 mil profit. Perhaps, one sensible strategy is a combination of the two scenarios: closing down some runs while increasing a run maximum vertical drop.



c. Limitations of Model

Before making the decision, Big Mountain resort should know that the Random Forest Model is based on data on resorts across the US and does not consider many features such as the number of customers, how local the customers are, the state income, etc. These features are essential because even though Big Mountain resort has a very high-quality service and features with an average ticket price rank among the resorts across the countries, its ticket price is highest in Montana right now, as shown in the figure below. As a result, if most customers of Big Mountain are local, the increase in ticket price might turn their customers to other competitions in the state. As a final recommendation, Big Mountain should increase its ticket price conservatively to around \$85 and gather more data before taking a more drastic change.

