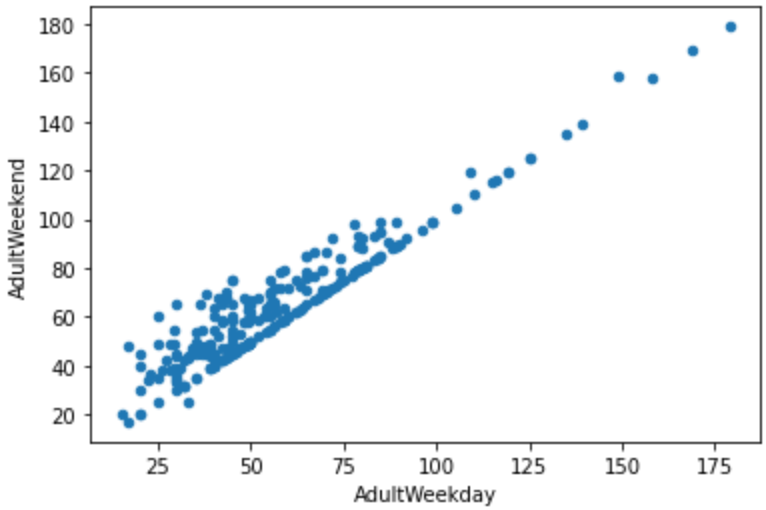
Guided Capstone Report

Big Mountain Ski resort have just installed a new chairlift that increases operational costs by $1,540,000 this season. The current situation with the Ski Resort Big Mountain is that they charge a premium above the market average of equivalent resorts. They currently charge $81 dollars for both Adult Weekday and Weekend tickets. The total market average for Adult Weekend prices is $64.27 for equivalent resorts in the market. In Montana the average ticket price is $51.1.

Note that resorts have a higher Weekend price 140 times and they are equal 141 times. Its true in only one case that the Weekend price is lower than the weekday price. The differences in the means between Weekday and Weekend prices is $6.23. In each resort in Montana their Weekday price is equal to Weekend price.

From making a scatter plot comparison of the two types of ticket price and found that often a resort has a Weekend Price that is higher than the Weekday Price when prices are below $100. This is true 138 times out of the 140 where Weekend prices are greater than Weekday prices.



These are the following recomendations for Big Mountain Ski Resort

1. Close one run. We found from the model that closing one run will have zero decrease in predicted price. We may ask in terms of operational costs how much

will we save from this and which run to close. I would advise closing a run whose chairlift serves multiple runs. Furthermore a run which is least appealing and least used by visitors. We may ask whether closing more runs would be beneficial. To do this we would need to know the reduction in operational costs from closing a run and compare them to the predicted decreases in total revenue. The model predicts a decrease of $710,144 for two closed runs. When we close three, four or five runs the decrease in total revenue is identical - it would be $1,166,666. Closures of six runs is $2,206,521 which would be a large loss. Note that the more runs you close the greater the decrease in operational cost but the more crowded the other runs become

2. Is Big Mountain currently charging a fair price for tickets? Without any additions to the resort the model predicts a ticket price for Big Mountain of $95.87 and we know the current price is $81. The Mean Absolute Error tells us how much error on average we can expect from the predictiion. For our model it is 10.39 which implies that we could increase the ticket price by $4.48. Equally we should note the model is based on Weekend prices which in some resorts are higher than Weekday prices.
3. Add the run that increases the vertical drop by 150 feet which requires the installation of a new chairlift but no additional snow making equipment. The model shows that will allow us to increase ticket price by $1.99 and total revenue by $3,474,638. Note that vertical drop is most positively associated with ticket price.
4. The model suggests without any further improvement to the resort we can increase ticket prices by $4.48 however we should be aware that the model is based on weekend prices which are often higher than weekday prices. The mean difference between the two prices is $6.8. Hence I would not suggest an increase in weekday ticket prices that are not supported by additions to the resort. Therefore I advise an increase in Weekday price to $83 supported purely by the addition of the run and Weekend ticket prices of $87.50 supported by the predicition of the model. This is further supported by the fact then Weekend ticket prices are often higher than Weekday ticket prices below $100. An alternative option would be to increase the ticket price throughout the whole week by 4.48 *2/7 = 1.28 however these changes to the Weekday price would be unsupported.

Full recomendation

Add the new run and the chair - this supports an increase both Weekday and Weekend ticket prices by $1.99. This would increase the ticket price in Big Mountain to $82.99

Close the least appealing run.

Increase in Weekend vs Weekday Price

The minimal current ticket price should be $82.99. Based on Weekend prices the model suggests we can increase by $4.48. Therfore the Weekday price for Big Mountain Resort should be $83 and the Weekend price should be $87.50. We must be aware however that each Resort in Montana has a Weekend and Weekday price that are equal.

Costs and revenue:

Assuming the average number of visitors stays the same at 350,000 per year and they continute on average to buy fice day passes we can calculate the revenue in the following way:

5 * 350,000 * ticket increase. We have an increase of $2 during the Weekdays and a further increase of $3.50 for the two days of the Weekend. Throught the whole week this is an increase of 2*3.50/7 + 2 which is a $3 increase each day. Therefore the increased revenue would be $5,250,000. However we must take into account the increased operational costs of having a new chairlift. If it is similar to the previous chairlift the operational costs would be $1,540,000. Therfore the increase in total revenue minus the operational costs would be $3,710,000

Caveats

The model is based on Weekend prices which tend to be higher than Weekday prices. It also relies on fair pricing from the other resorts; that is they are not pricing themselves too high or low with regard to the market. We should also note that in Montana each resort has an equal Weekend and Weekday price, hence in raising Weekend prices over Weekday prices we may face hesitance from visitors over the Weekend. Increasing prices may have some effect on the number of visitors and the number of days for which they purchase a ticket.