**Business objective:** How to increase the total revenue of Big Mountain Resort?

**Criteria for success:**

**Scenario 1:**

From historical data, we want to critically examine the relationship between total yearly revenue and the explanatory variables (as mentioned in the data) for Big Mountain Resort.

***Total yearly revenue*** *= f (*Number of people who ski or snowboard, cost of lift chair tickets *(weekdays and weekends)*, number of operating ski-days per year*)*

*Therefore,* ***Total yearly revenue****= Total revenue(weekdays) + total revenue(weekends)*

***Total revenue (weekdays****)= [*cost of lift chair tickets (weekdays) \* Number of tickets sold on weekdays) ]\* (Number of operating weekdays in a year)

***Total revenue (weekends****)=[* cost of lift chair tickets (weekends) \* Number of tickets sold on weekends) ] \* (Number of operating weekends in a year)

We will study the relationship between total yearly revenue *(dependent variable)* and the list of explanatory variables *(average yearly snowfall, number of snow making machines, number of terrain parks, number of runs, number of chairs)* to understand which factors have significantly positively/negatively affected the revenue of Big Mountain Resort. This will, henceforth, help in better decision making in terms of investment strategy.

**Scenario 2:**

We perform the same analysis for all the ski resorts in the Montana region and compare the revenue performance of Big Mountain Resort with all its competitors.

**Scope of solution:** (Methodology)

1. Performing an exploratory data analysis (with the raw data) to understand the performance of Big Mountain Resort in the past years and to look for any significant fluctuations.
2. We have to prepare the data *(deal with outliers, missing values, duplicates etc.)* and also scale the data.
3. We will split the data into training (70%) and test (30%)
4. We will implement a simple linear regression model in the training data set and check the performance of our model. If the model has a good accuracy (say 85% or more), we will run the same model in our test data.
5. Once we have our model ready, we will use the model for prediction.

**Constraints:**

1. We need historical data as it will help us to understand the past performance of Big Mountain Resort and its dependency on different factors.
2. It is essential to have the right number of people with the appropriate skills to enable Big Mountain Resort achieve its business objectives.
3. To understand the nature of demand in the Ski resort market, it is important to identify the requirements of the customers through detailed market research.
4. Liquidity and cash flow are thus very important. It is necessary to have sufficient funds as they are required to meet the pressing needs of the business.

**Stakeholders:**

1. Director of Operations, Jimmy Blackburn
2. Alesha Eisen, the Database Manager

**Data Source(s):**

We need specific user level access granted to a SQL database or an S3 bucket. Currently, we have a single CSV file that we received from the database manager.