GitHub Link

SPAP plan for the Project

1. **Goal:**
   Predict Weekly sales of Walmart
2. **Dependent Variable:**
   Weekly Sales
3. **Specific Questions:**
   Q1: Do the markdowns during a specific holiday improve the weekly sales of a particular department?
   Q2: Does external factors for the week affect the sales of a store for that week?
4. **Independent Variable:**
   Independent Variables for Q1:
   Unemployment rate, CPI, Fuel rate, Temperature and IsHoliday
   Independent Variables for Q2:
   Markdown1, Markdown2, Markdown3, Markdown4, Size, Store, and department.
5. **Specific Analysis and Graphs:**
   Weekly sales by store, Weekly sales by Department, Overall monthly sales, Top performing departments, and least performing department.

Key Performance Indicators (KPI's)

The KPI's for our project are as follows -
- Weekly Sales to Markdown ratio
- Sales of a department by store

1. **What is your desired outcome?**
   To increase weekly sales by introducing new offers and promotions.

2. **Why does this outcome matter?**
   The ratio of Weekly Sales to Markdown will tell us how the offers and promotions are working in order to increase the weekly sales of the store.

3. **How are you going to measure progress?**
   Lower the ratio, greater the progress. When the ratio is low it means sales is good.

4. **How can you influence the outcome?**
   We can influence the outcome by increasing the Markdown values.

5. **Who is responsible for the outcome?**
   The Marketing team and PR team is responsible for the outcome.

6. **How will you know you have achieved the outcome?**
   When the weekly sales are increasing over time and ratio is constant.

7. **How often will you review progress towards the outcome?**
   In order to review progress, we need to check the result every week or every 2 weeks.

Hypothesis

1. **Hypothesis to specific question Q1:**
   - **Is_holiday:** If it is a holiday week then most of the stores will have better weekly sales and a lower CPI.
   - **Temperature:** If the average temperature decreases then the sales of stores are affected negatively.
   - **Consumer Price Index:** The CPI will decrease during holidays and when markdowns are introduced leading to improved weekly sales.
2. **Hypothesis to specific question Q2:**
   - **Markdowns:** Markdowns will improve the sales in all the stores
   - **Department:** The sales of a specific department within a store will increase when markdowns are introduced, especially during special holidays.
   - **Weekly_Sales:** The weekly sales are affected negatively when the unemployment rate as well as CPI is high.