Web Analytics and Business Intelligence Tools

ASSIGNMENT 2 (POWER BI)

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Introduction

Historical data of sales for many stores with different departments from 2010-02-05 to 2012-11-01 with different csv file named “Stores”, “Features” and “Sales”

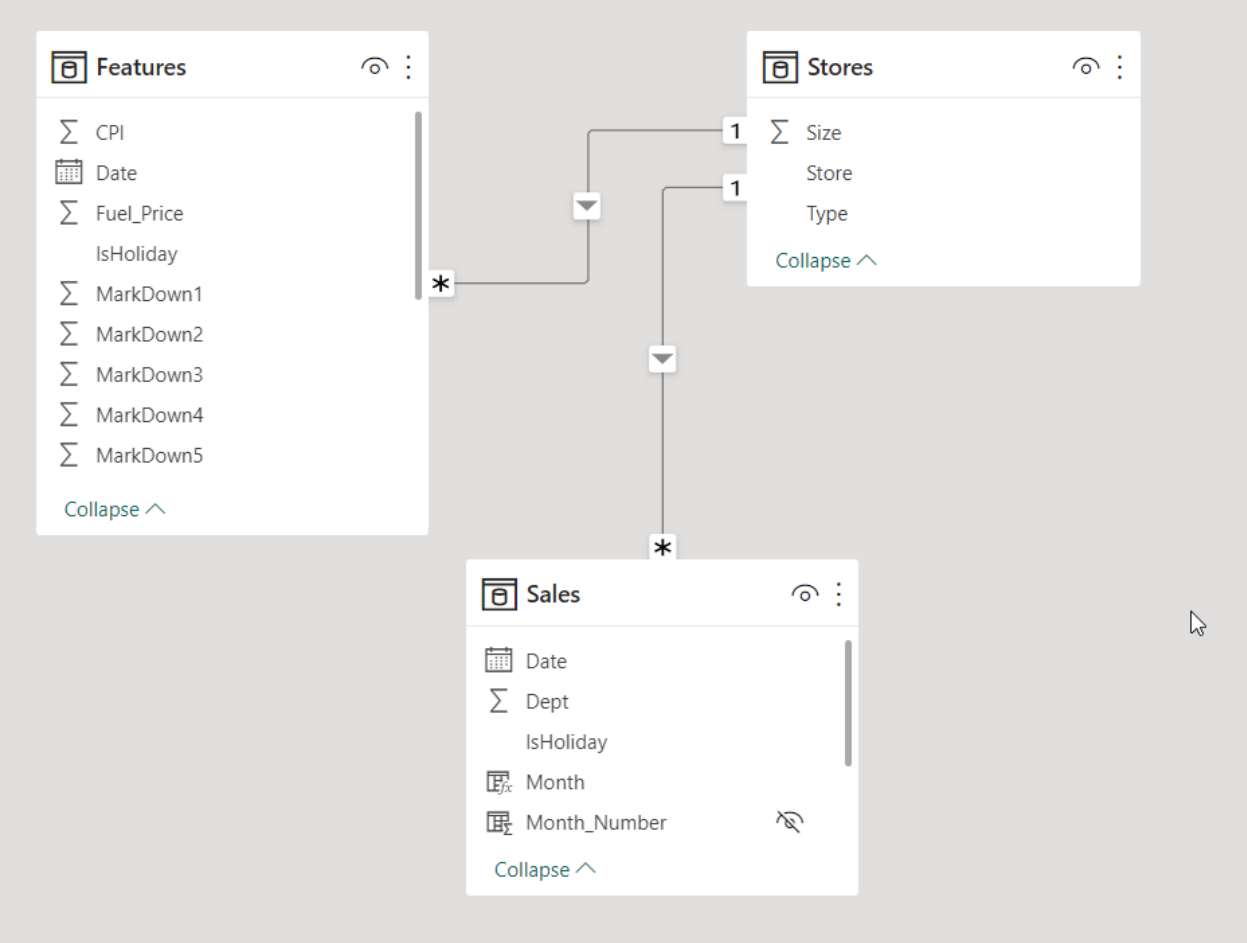
Data Set Details

Data Set source link: Retail Store Sales | Kaggle

There are 3 csv file in dataset as mentioned below:

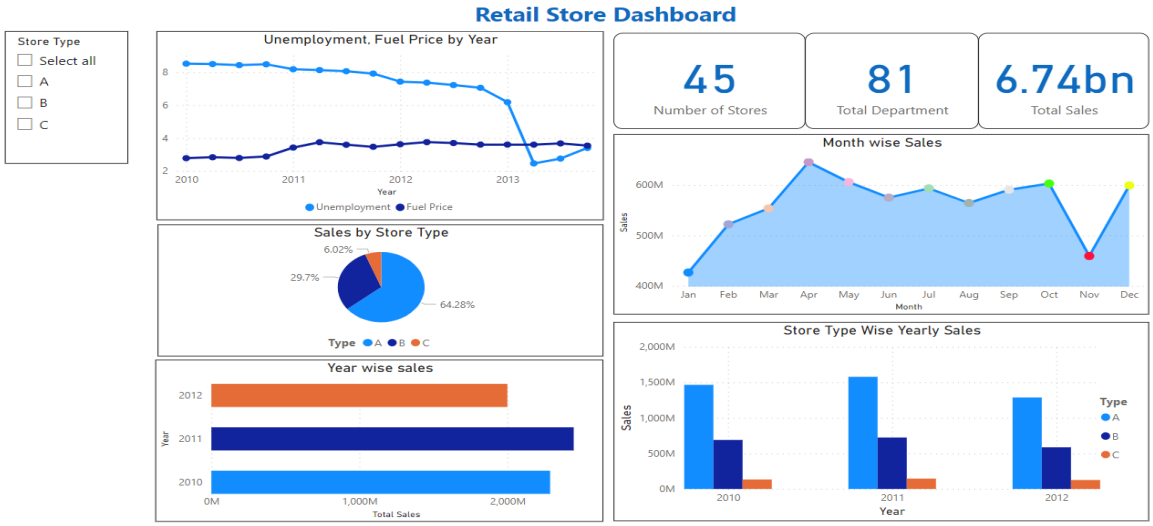
1. **Stores data set.csv**: Anonymized data almost the 45 stores, showing the sort and estimate of store with below details:
    a. Store – the store number
    b. Type – type of store
    c. Size – size of store
2. **Features data set.csv**: Contains extra information related to the store, department, and regional action for the given dates with below details:
    a. Store - the store number
    b. Date - the week
    c. Temperature - average temperature in the region
    d. Fuel_Price - cost of fuel in the region
    e. MarkDown1-5 - anonymized data related to promotional markdowns. MarkDown data is only available after Nov 2011, and is not available for all stores all the time. Any missing value is marked with an NA
    f. CPI - the consumer price index
    g. Unemployment - the unemployment rate
    h. IsHoliday - whether the week is a special holiday week
3. **Sales data set.csv**: historical data with data rang from 2010-02-05 to 2012-11-01 for sales with below details:
    a. Store - the store number
    b. Dept - the department number
    c. Date - the week
    d. Weekly_Sales - sales by department in the given store
    e. IsHoliday - whether the week is a special holiday week

Table Relationship

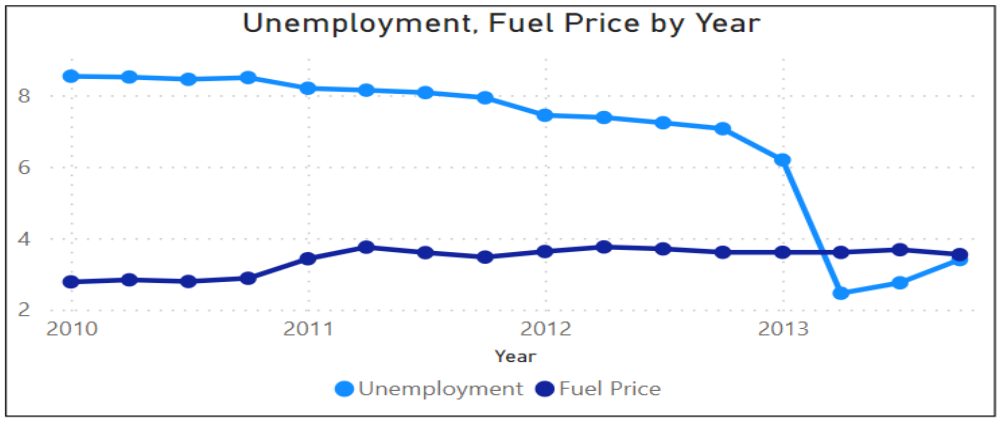


Data Elements

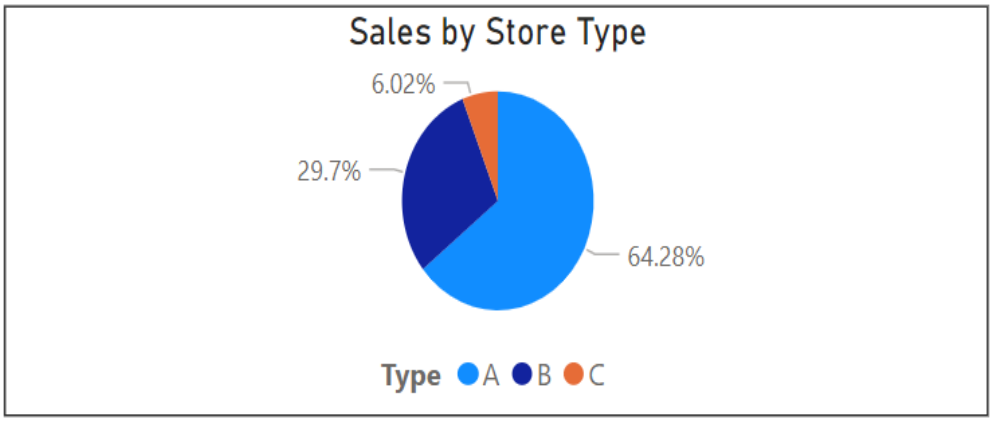
1. Retail Store Dashboard
    a. Overall data analysis of Dataset of Retail stores



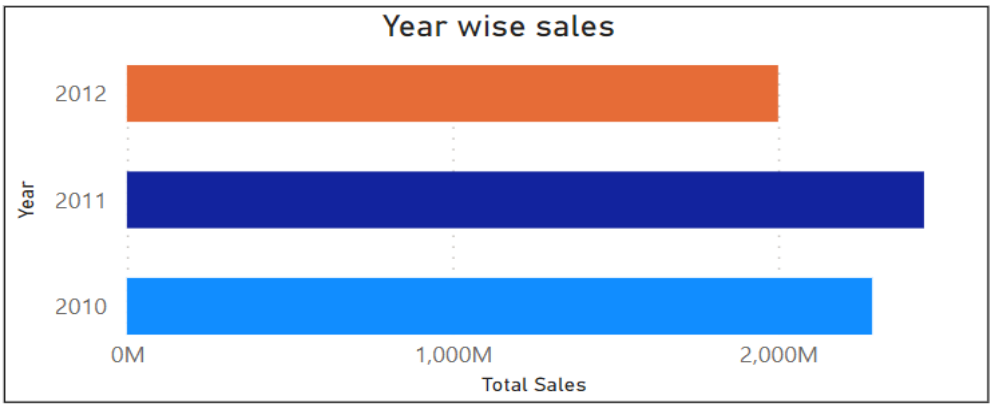
2. Unemployment and Fuel Price by Year
    a. It indicates that the unemployment rate is decreasing year after year, but fuel prices are increasing year after year



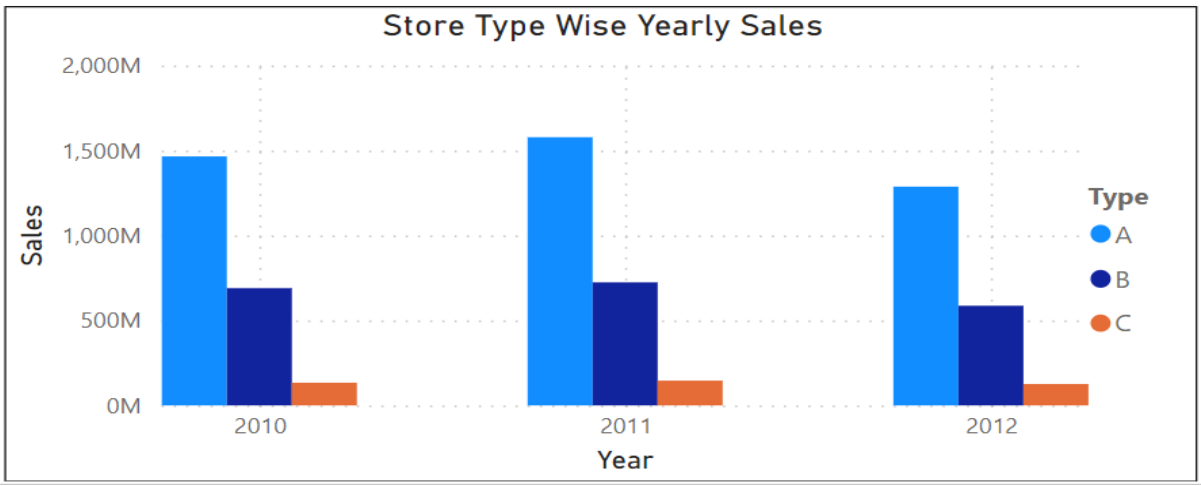
3. Sales by Store Type
    a. It indicates that Store type A is most popular among the Consumers where C type store is not choice for majority of buyers.



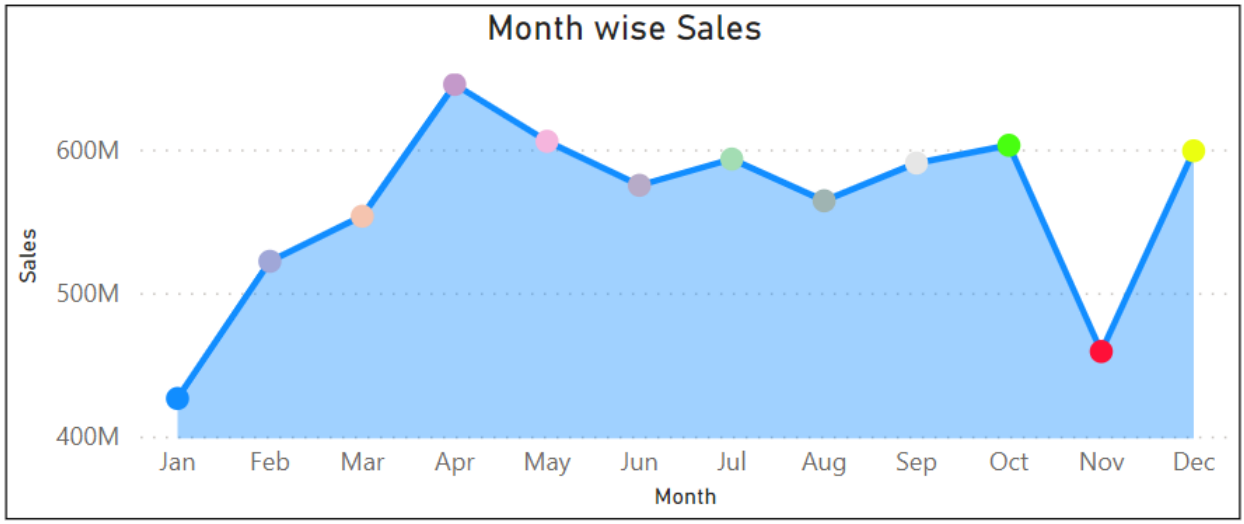
4. Year wise sales
    a. Highest Sales was done in year 2011, followed by 2010 and last was year 2012



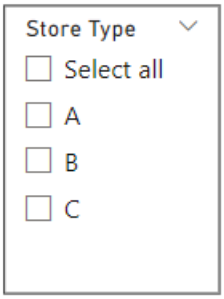
5. Store Type wise yearly Sales
    a. Year 2011 has highest sales and all over years store type A is most famous.



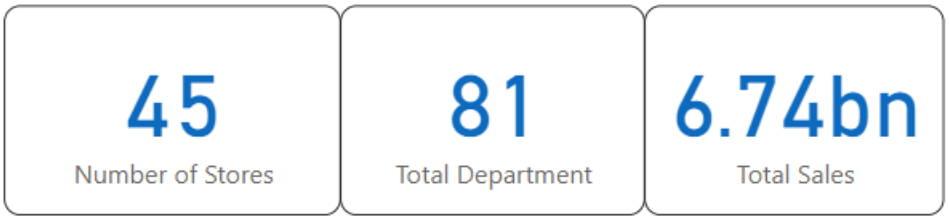
6. Month wise sales
    a. The lowest sales were made in January, and the next-to-last ones were in November. This trend may be explained by the fact that December falls between the busiest shopping and holiday seasons, but because the complete December 2012 data is absent, it is difficult to make any predictions.
    b. Highest sales occurred in April because of summer holiday buying or maybe winter collection clearance sales.



7. Slicer – Store Type
    a. This will reflect all reports results



8. Data Cards
    a. Number of Stores
    b. Total Department from all over stores
    c. Total Sales for all years



9. Measures
    a. Average CPI
        i.
```
1  AvgCPI = AVERAGE('Features'[CPI])
```
    b. Average Temperature
        i.
```
AvgTemp = AVERAGE('Features'[Temperature])
```
    c. Average Unemployment
        i.
```
AvgUnemployment = AVERAGE('Features'[Unemployment])
```
    d. Calculate columns
        i. MonthName
        ii. Year

```
MonthName = FORMAT('Features'[Date],"MMM")
```

```
Year = YEAR('Features'[Date])
```

Conclusion

- From the data analysis from given dataset it can be predicated that fuel price will increase in future whereas unemployment rate will be declined over the years.
- April month is most favorable for shopping and Store Type A is also most favorable.