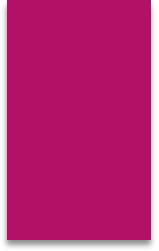


POWER BI IMPORTANT DETAILS

- Power BI Data Modelling and usage of DAX functions
- Usage of prerequisite modelling requirements like Date Table
- Comparison of various calculations using Time Intelligence Functions
- Column Chart implementation in terms of Salary Wise Age Group
- Line Chart implementation in terms of Fiscal Month Sales of India & USA
- Bar Chart implementation in terms of Sales by Sub category by creating dynamic color for comparison by using dynamic measure calculations.

Created by:
RISHI KALPA MUKHERJEE

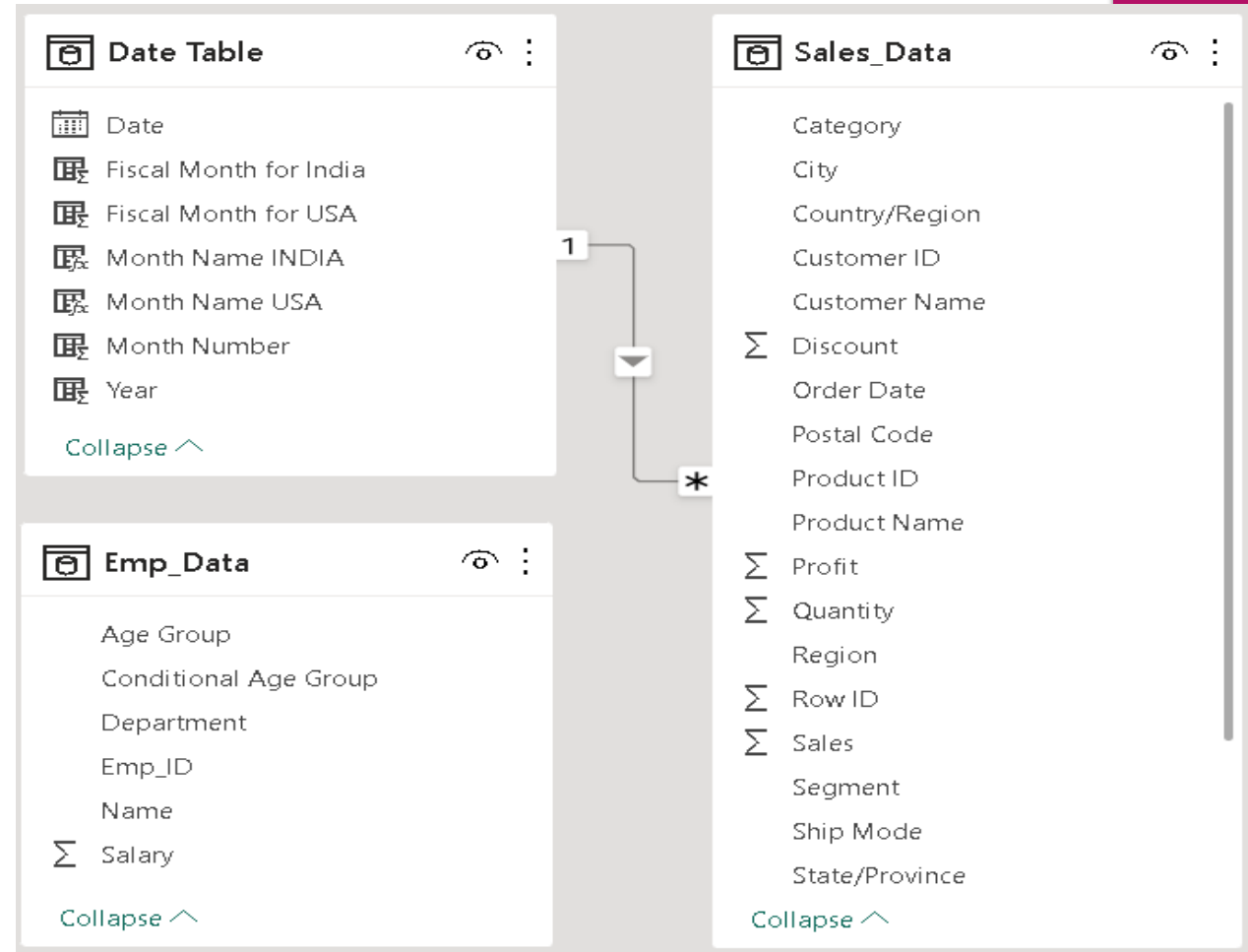


STUDY OBJECTIVE:

- The data set provided is based on Employee data and Sales Data. Do a thorough analysis of the data and come up with the following analysis.
- The data is based on xlsx file extension and imported in Power BI Desktop.
- First and foremost in order to make data modelling, relationship and connection between 2 or more tables need to be implemented.
- Prerequisite calendar data table being created for making a connection in relational tables in modelling view.
- Cardinality refers to uniqueness of values in a column.
- Create visuals based upon requirements with analysis and DAX functions.

Data Modelling

- One to Many relationship cardinality has been created by using a relationship entity of Order Date.
- One related to unique distinct values found out and many(*) related to multiple and duplicate values present.
- One instance for Primary Key and many instances for Foreign key.
- Primary Key is in Dimension table and Foreign key is in Fact table.
- Dimension Table Primary Key filters fact table foreign key.



Calendar Table

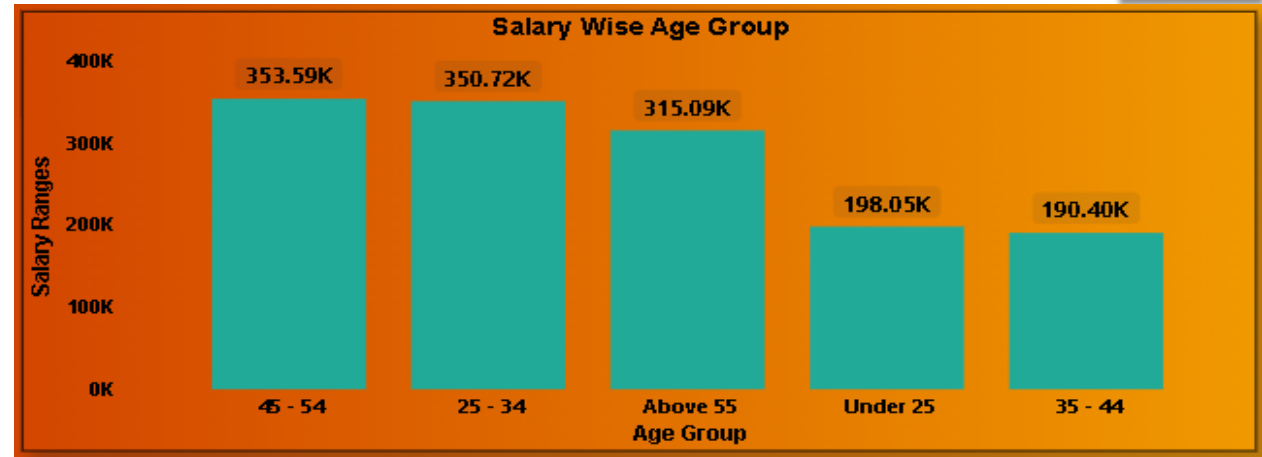
- For any data analysis and to build data modelling calendar table data need to be executed based upon clients requirements as mostly data is need to be shown on monthly weekly yearly sales profit or cost.
- Year, Month calendar column being created.
- Fiscal year calculation has been done to check on comparison with USA and INDIA financial year data in respect to Sales.

Date	Year	Month Name USA	Month Number	Fiscal Month for USA	Fiscal Month for India	Month Name INDIA
03-01-2020	2020	January	1	4	10	January
04-01-2020	2020	January	1	4	10	January
05-01-2020	2020	January	1	4	10	January
06-01-2020	2020	January	1	4	10	January
07-01-2020	2020	January	1	4	10	January
08-01-2020	2020	January	1	4	10	January
09-01-2020	2020	January	1	4	10	January
10-01-2020	2020	January	1	4	10	January
11-01-2020	2020	January	1	4	10	January
12-01-2020	2020	January	1	4	10	January
13-01-2020	2020	January	1	4	10	January
14-01-2020	2020	January	1	4	10	January
15-01-2020	2020	January	1	4	10	January
16-01-2020	2020	January	1	4	10	January
17-01-2020	2020	January	1	4	10	January
18-01-2020	2020	January	1	4	10	January
19-01-2020	2020	January	1	4	10	January
20-01-2020	2020	January	1	4	10	January
21-01-2020	2020	January	1	4	10	January
22-01-2020	2020	January	1	4	10	January
23-01-2020	2020	January	1	4	10	January
24-01-2020	2020	January	1	4	10	January
25-01-2020	2020	January	1	4	10	January
26-01-2020	2020	January	1	4	10	January
27-01-2020	2020	January	1	4	10	January
28-01-2020	2020	January	1	4	10	January
29-01-2020	2020	January	1	4	10	January
30-01-2020	2020	January	1	4	10	January

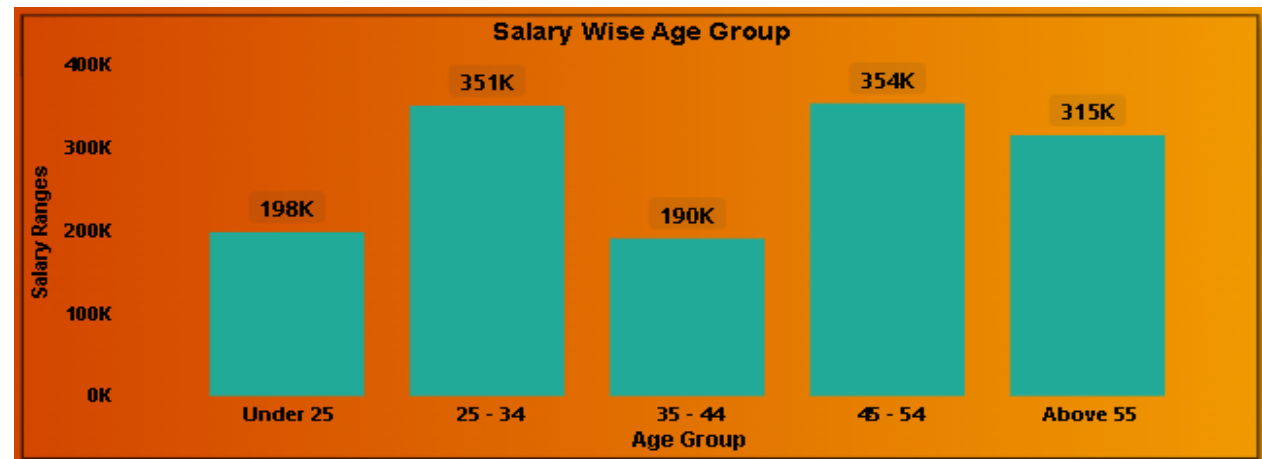
Column Chart

- Based upon analysis on Age Group in respect to Salary by using column chart, we came to know that the Bins Distribution of age group is not being shown sequentially.
- In order to get the Age Group in sequence manner we need to create a conditional column in Power Query Editor by giving new column name and need to use "**Sort by Columns**" to get the desired results of Age Group in sequence manner in 2nd Diagram.

1st Diagram



2nd Diagram

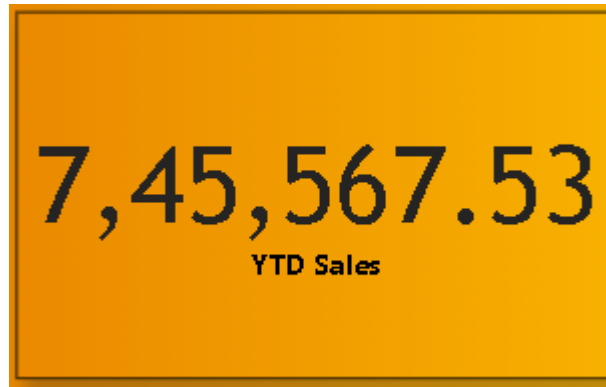


YTD Sales and YTD Sales Till Today

- Connecting Sales Table and find YTD Sales by using DAX functions of TOTALYTD and Calendar table.
- TODAY() being aligned with the TOTALYTD to get up to Date Sales of current date.
- YTD Sales of 2023 being calculated by showing sales of 7,45,567.53 and YTD Till Today from Jan 01 2023 till 3rd June 2023 with sales of 2,15,369.45

1st Text table : YTD Sales

YTD Sales = CALCULATE(TOTALYTD(SUM(Sales_Details[Sales]), Data_Table[Date]))



Year	YTD Sales
2020	4,94,040.21
2021	4,72,993.03
2022	6,13,933.58
2023	7,45,567.53
Total	7,45,567.53

2nd Text Table : YTD Sales Till Today

YTD Sales Till Today = CALCULATE(TOTALYTD(SUM(Sales_Details[Sales]), Data_Table[Date]), Data_Table[Date] <= TODAY())

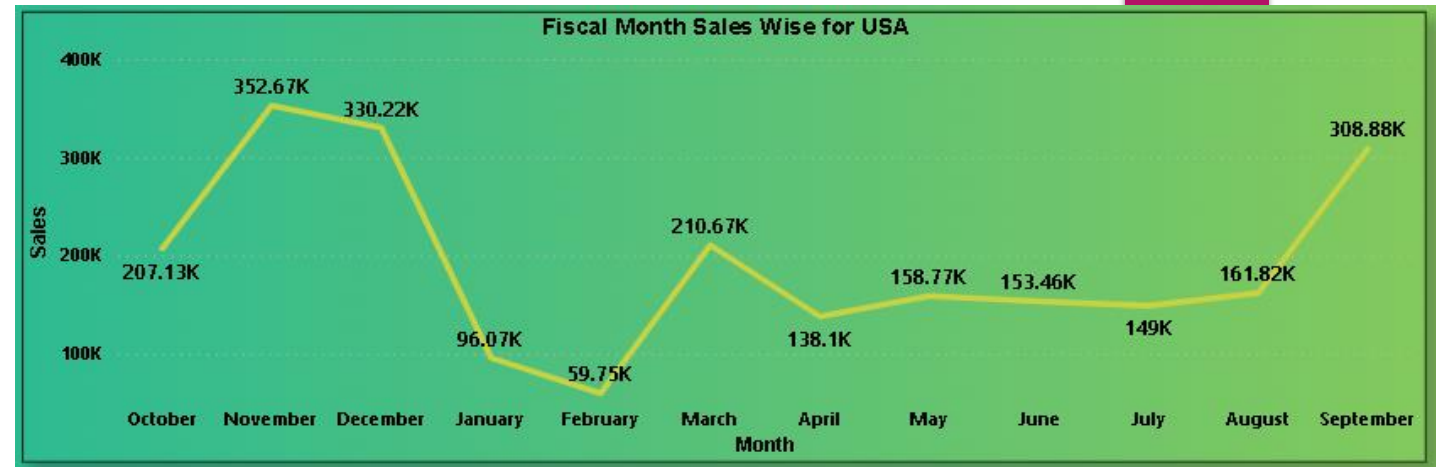


Order Date	Sum of Sales	YTD Sales Till Today
23-03-2023	14,816.07	14,816.07
08-04-2023	6,401.93	6,401.93
16-01-2023	6,230.29	6,230.29
13-03-2023	6,034.25	6,034.25
01-04-2023	5,972.99	5,972.99
Total	23,26,534.35	2,12,417.41

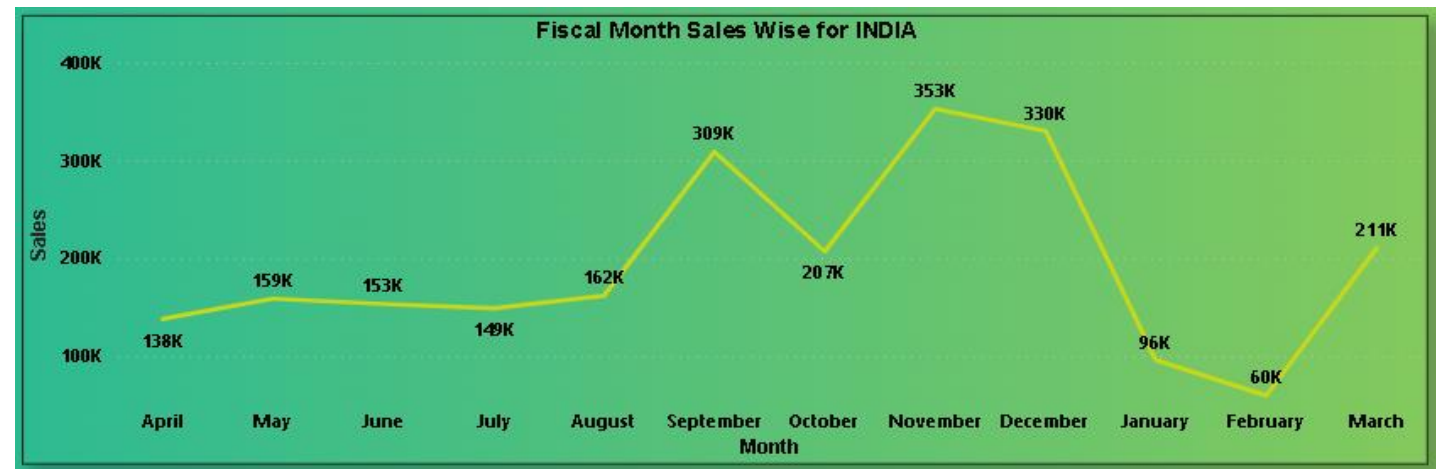
Line Chart

- Connecting Sales Data and create monthly trending chart for Sales.
- Fiscal year for USA starts at 1st of October and for India fiscal year starts from 1st April. So Month name calendar table being created.
- DAX functions of fiscal month for USA and INDIA being used and SORT BY COLUMNS being used and sort the data in ascending order to get the data based on fiscal year of countries USA and INDIA.

1st Diagram



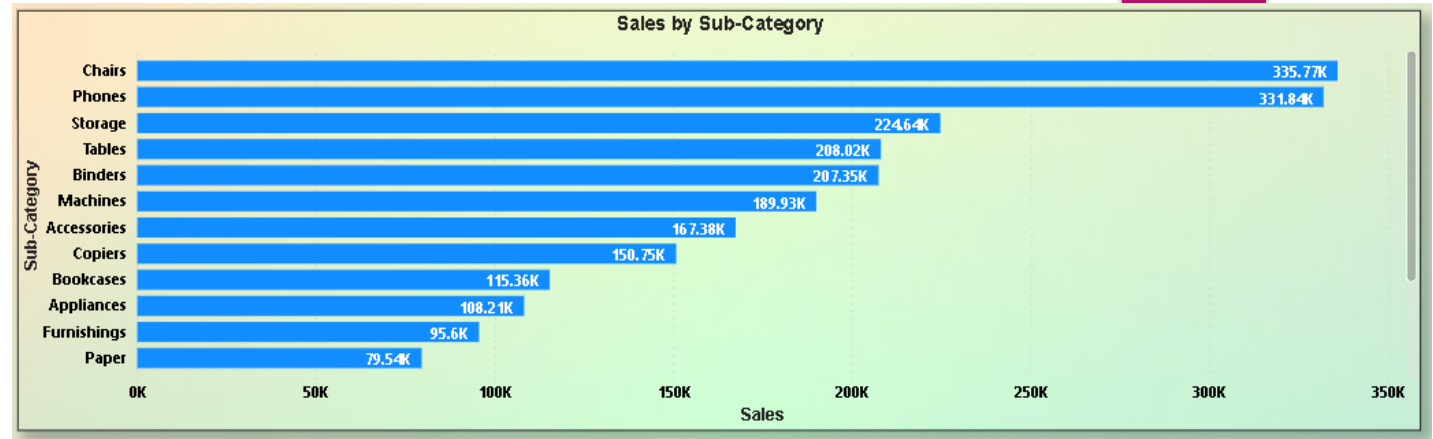
2nd Diagram



Bar Chart

- Connecting Sales Data and create bar chart by using sub category and sum of sales data.
- Adding green color to sub category bars where one conditional meets with sub categories greater than 150K assign green color and lesser than 150K assign red color.
- We can create measure by using DAX functions & create Calculated Column to get the desired results differentiating the sub category wise sales.

1st Diagram



2nd Diagram

Dynamic Color= IF(SUM(Sales_Details[Sales]>150000, "Green", "Red")

