



# BUDGET SALES ANALYSIS

DETAILED PROJECT REPORT

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# PROJECT DETAILS

<b>Project Title</b>	Budget Sales Analysis
<b>Technology</b>	Business Intelligence
<b>Domain</b>	Sales and Retail
<b>Project Difficulty Level</b>	Advanced
<b>Programming Language Used</b>	Python
<b>Tools Used</b>	Jupyter Notebook, MS Excel, Power BI

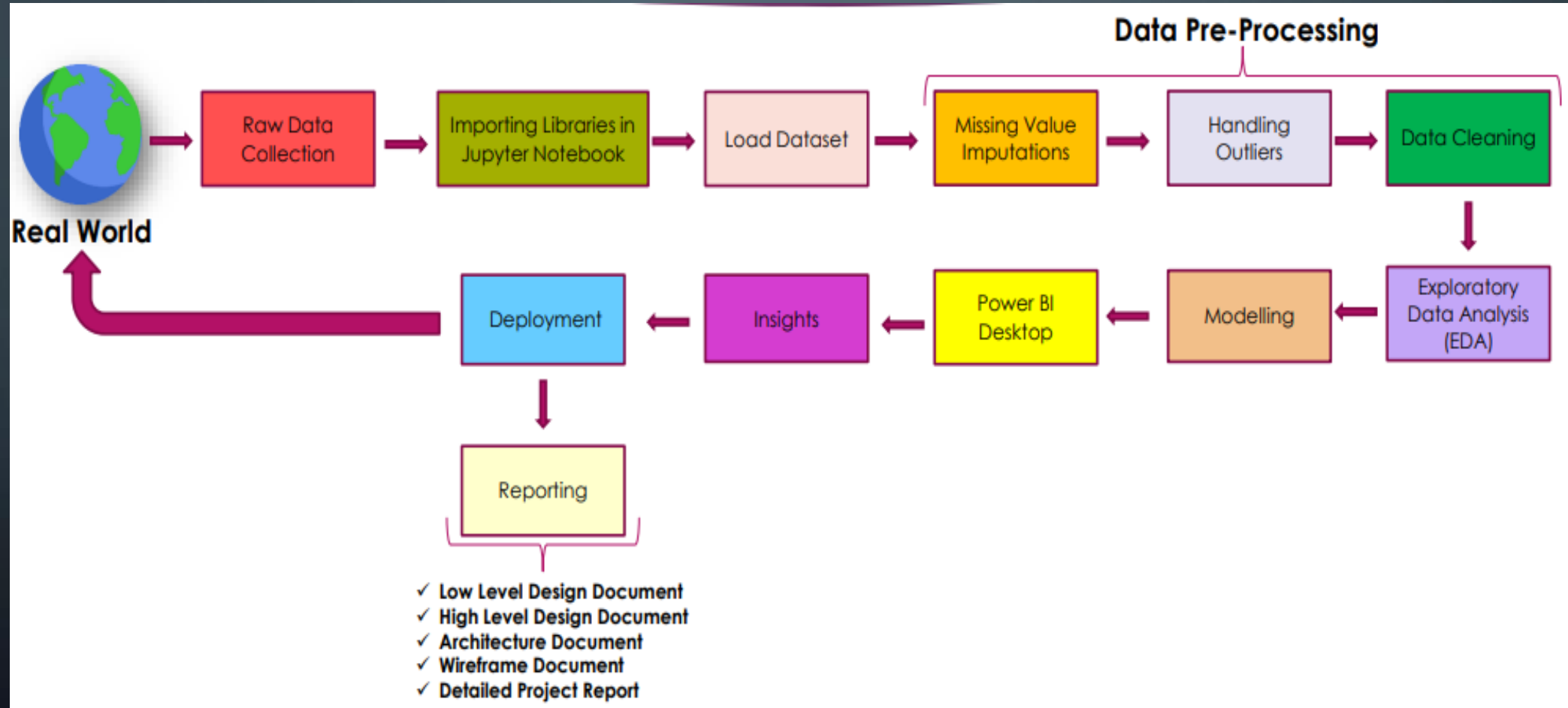
# OBJECTIVE

- This project is to analyse the Customer data, Product data, Sales data and Budget Data of a Retail chain and extract keys insights that can be valuable in taking business decisions.

# PROBLEM STATEMENT

Budget and Sales are by far most important attributes that defines a business's success and failure. Therefore, it is very important to keep a track on various features related to these attributes to keep on increasing the Sales and to allocate the Budget so that it can be utilized wisely and efficiently. So, it is very important for businesses to dig deep into the customer, sales, budget and product data to make better marketing strategy, to know the target customers, to make market friendly product upgrades and to keep a strong track on the budget efficiency. Good data driven systems can help achieve these goals and take the businesses forward towards success.

# ARCHITECTURE



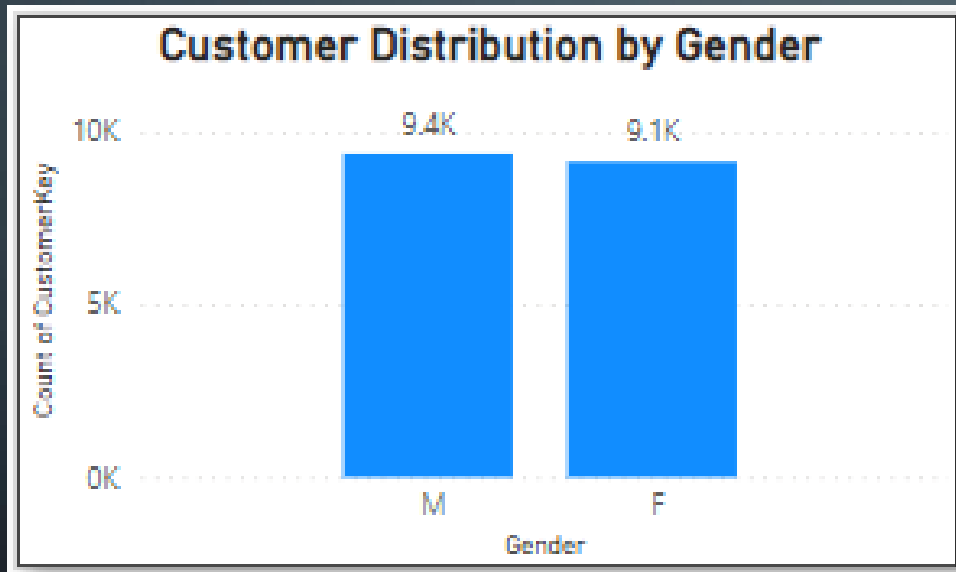
# DATASET INFORMATION

Various Excel files available in the dataset: -

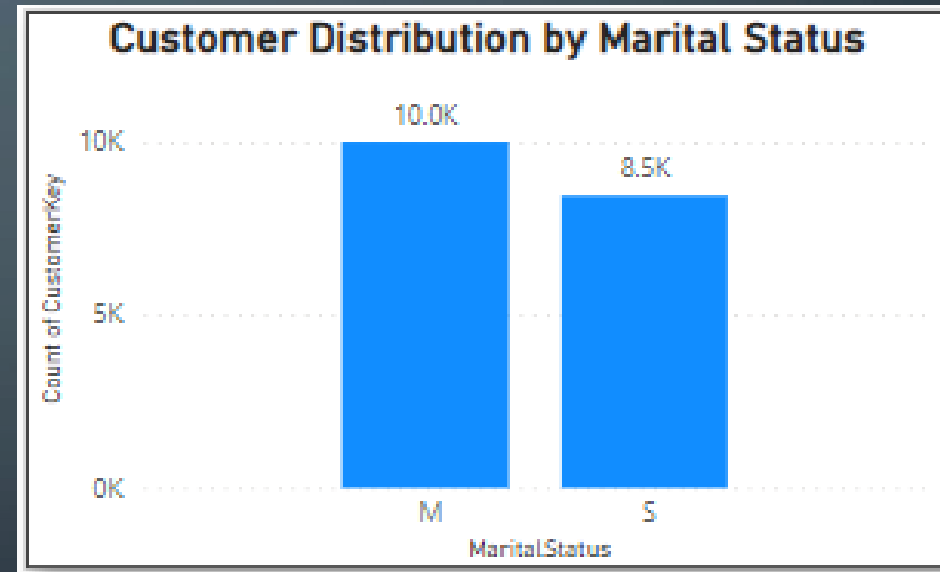
- **Customer Data:** This file consists of the features related to the data about the customers i.e., 'CustomerKey', 'FirstName', 'LastName', 'FullName', 'BirthDate', 'MaritalStatus', 'Gender', 'YearlyIncome', 'TotalChildren', 'NumberChildrenAtHome', 'Education', 'Occupation', 'HouseOwnerFlag', 'NumberCarsOwned', 'AddressLine1', 'DateFirstPurchase', 'CommuteDistance'.
- **Product Data:** This file consists of the features related to the data about the product i.e., 'ProductKey', 'ProductName', 'Subcategory', 'Category', 'StandardCost', 'Color', 'List Price', 'DaysToManufacture', 'ProductLine', 'ModelName', 'Photo', 'ProductDescription', 'StartDate'.
- **Sales Data:** This file consists of the features related to the data about the Sales i.e., 'ProductKey', 'OrderDate', 'ShipDate', 'CustomerKey', 'PromotionKey', 'SalesTerritoryKey', 'SalesOrderNumber', 'SalesOrderLineNumber', 'OrderQuantity', 'UnitPrice', 'TotalProductCost', 'SalesAmount', 'TaxAmt'.
- **Territory Data:** This file consists of the features related to the data about the Territory i.e., 'SalesTerritoryKey', 'Region', 'Country', 'Group', 'RegionImage'.
- **Budget Data:** This file consists of the features related to the data about the Budget 2016 i.e., 'Category', 'Subcategory', 'ProductName', 'ProductKey', 'Jan, 2016', 'Feb, 2016', 'Mar, 2016', 'Apr, 2016', 'May, 2016', 'Jun, 2016', 'Jul, 2016', 'Aug, 2016', 'Sep, 2016', 'Oct, 2016', 'Nov, 2016', 'Dec, 2016', 'Grand Total'.

# INSIGHTS

## Customers Data

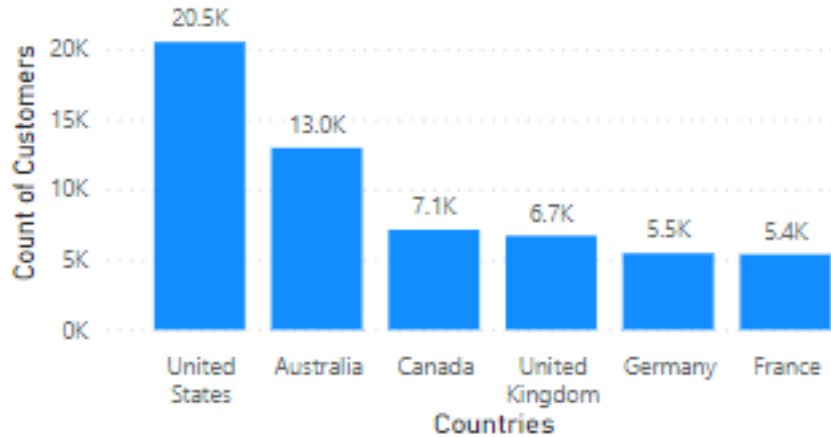


- No. of Male and Female customers are nearly equal



- No. of Married customers are slightly more than Single customers.

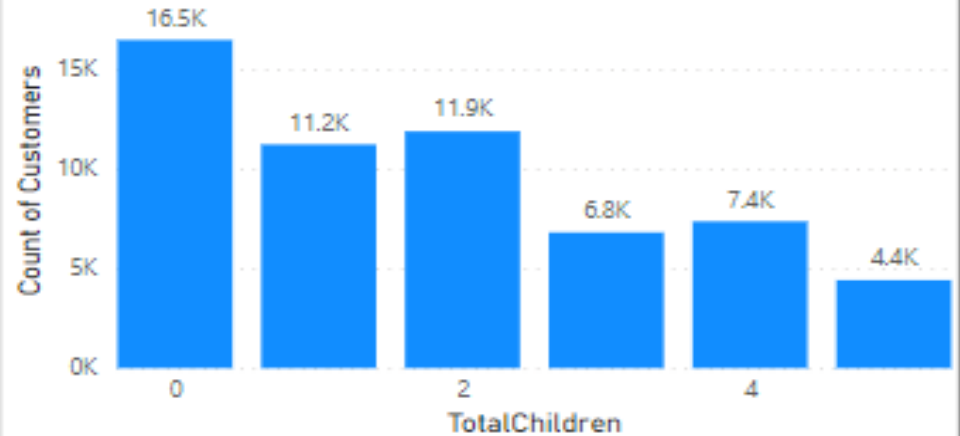
**Customer Distribution by Country**



- Most of the customers are from United States and Australia.
- Maximum customers are from United States.

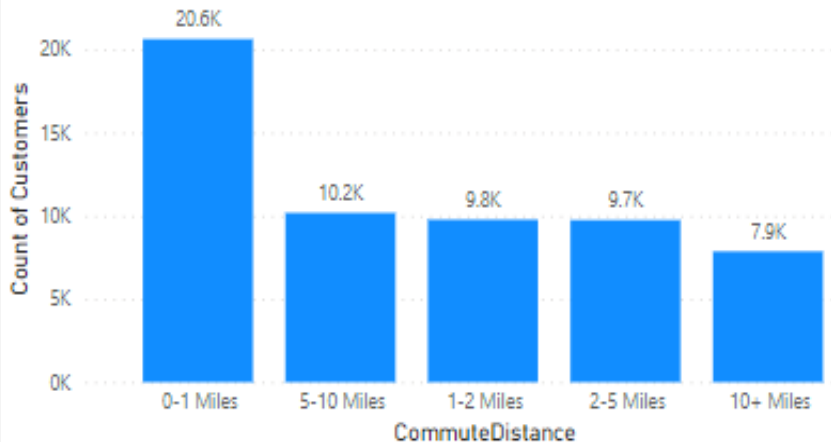
- Maximum no. of the customers have no children.
- Most of customers are having no children or 1-2 children.

**Customer Distribution by Total Children**



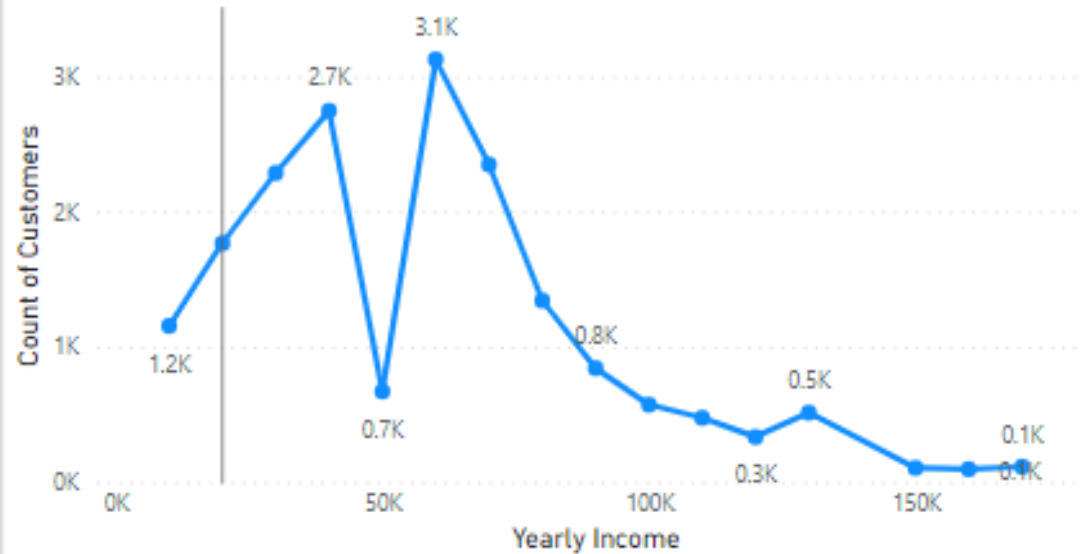
- Customers having less commute distance i.e. 0-2 are the maximum.

**Customer Distribution by Commute Distance**





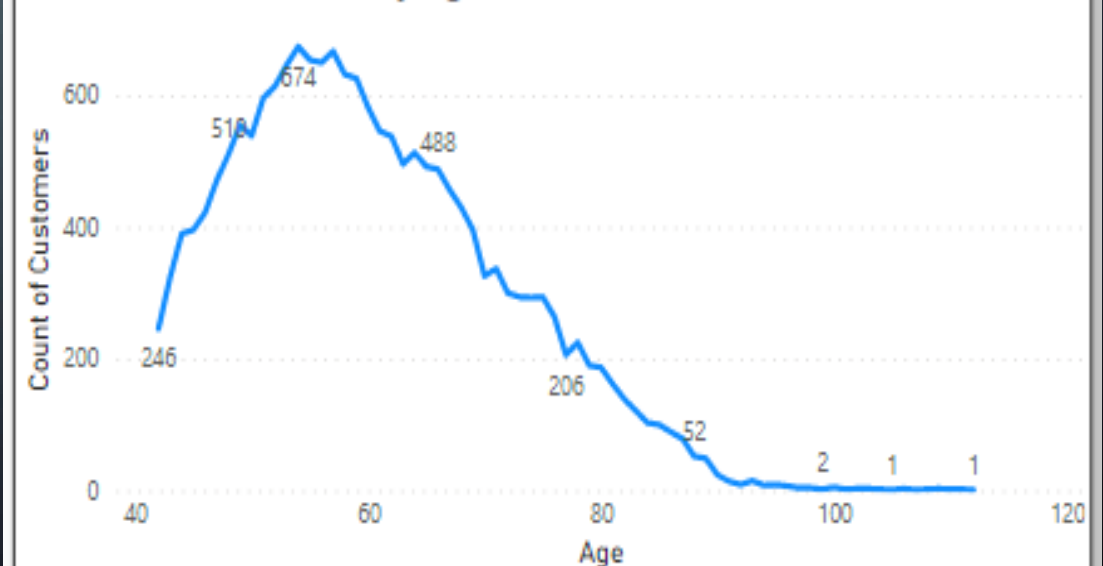
**Customer Distribution by Yearly Income**



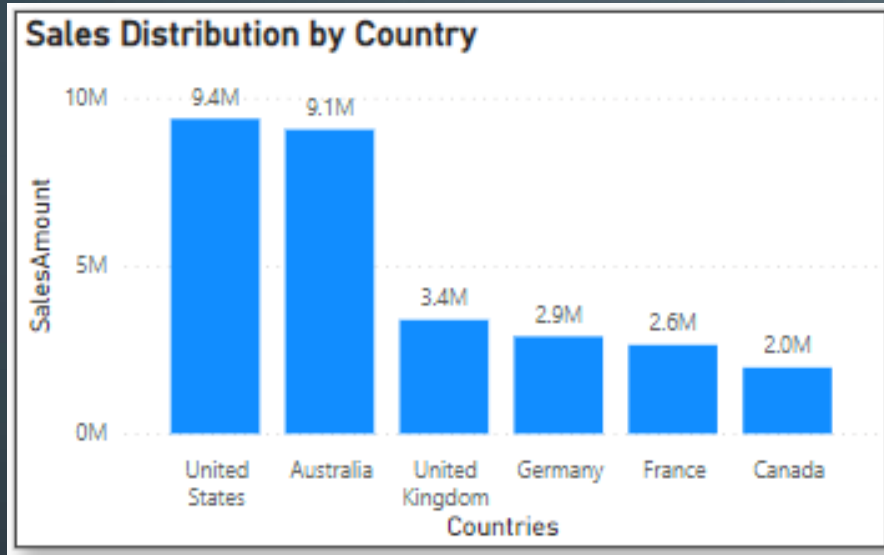
- Nearly all the customers are having Yearly Income less than 100K.
- Most of the customers are having the Yearly Income approx. between 20K to 80K.
- There is an unexpected drop in no. of customers with yearly income 50K.

- Age of the customers is nearly between 40 to 80 years.
- Most of the customers are from the age range 50 – 70 years.

**Customer Distribution by Age**

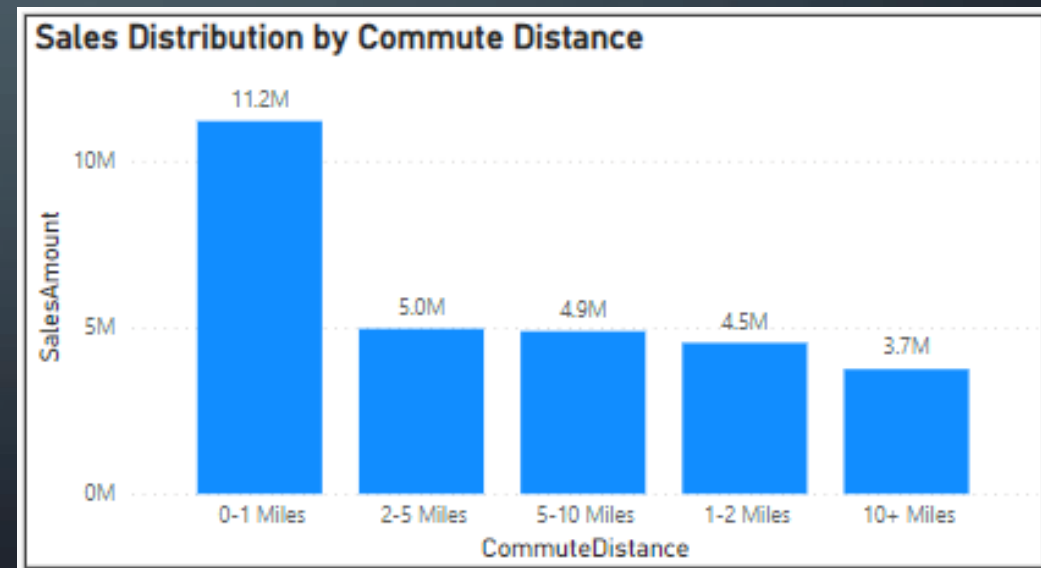


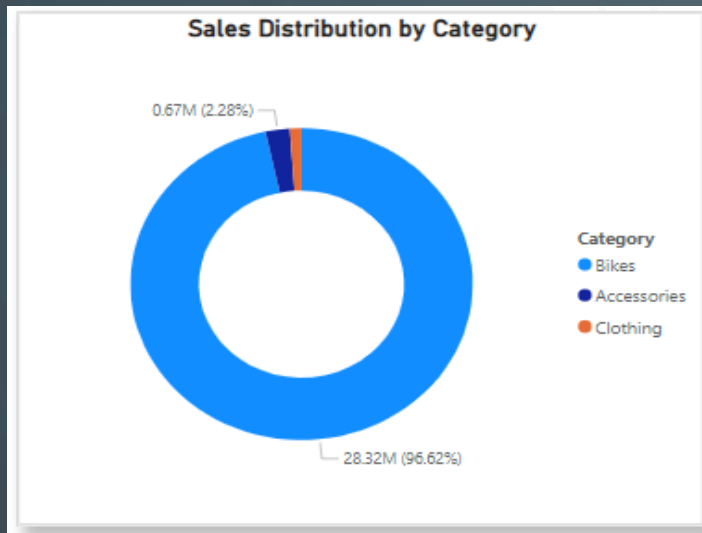
## Sales Data



- Nearly 30% of the sales comes from the customers whose commute distance is 0-1 miles.

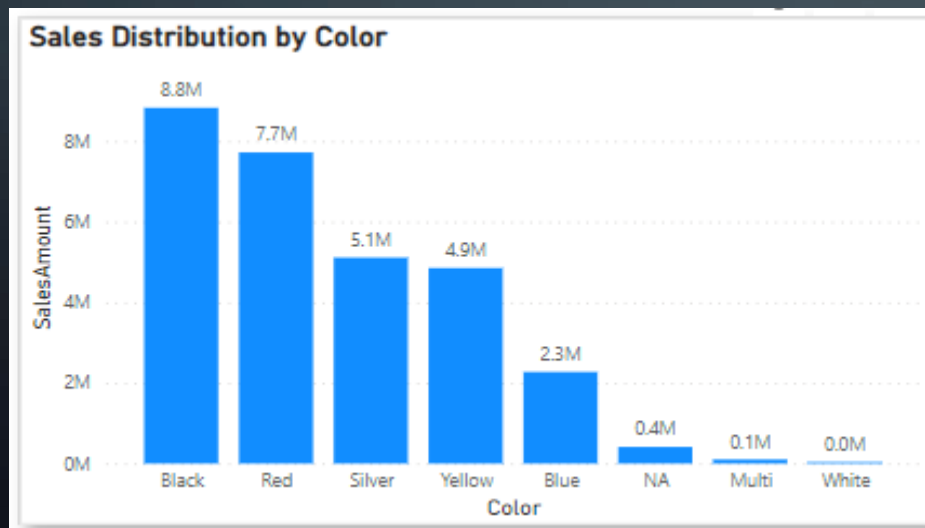
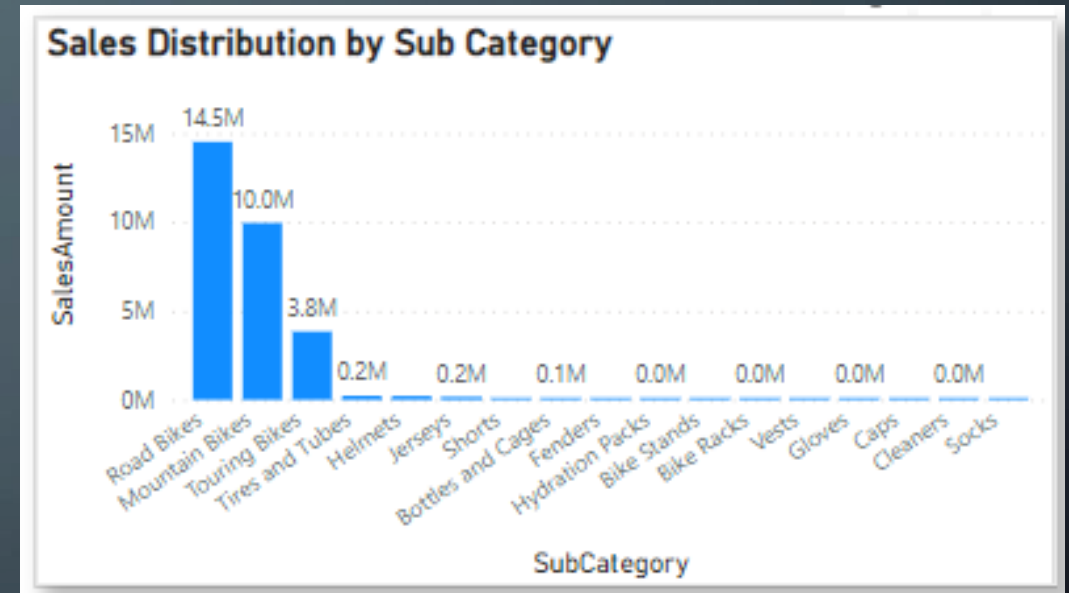
- Nearly 70% of total sales comes from United States and Australia.





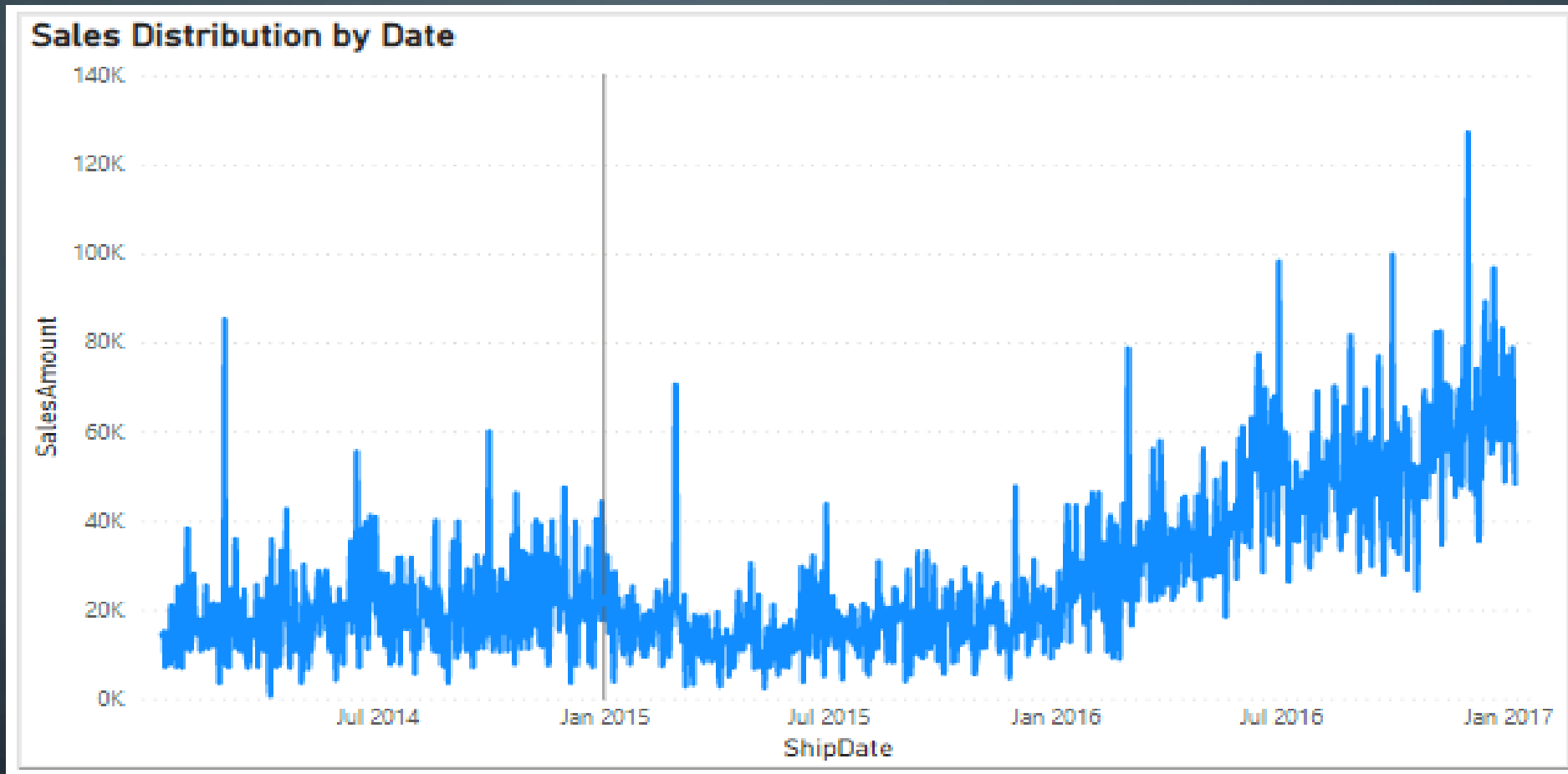
➤ 96.62% of the sales comes from Bikes.

➤ Among the Bikes category, Road bikes gives maximum sales.



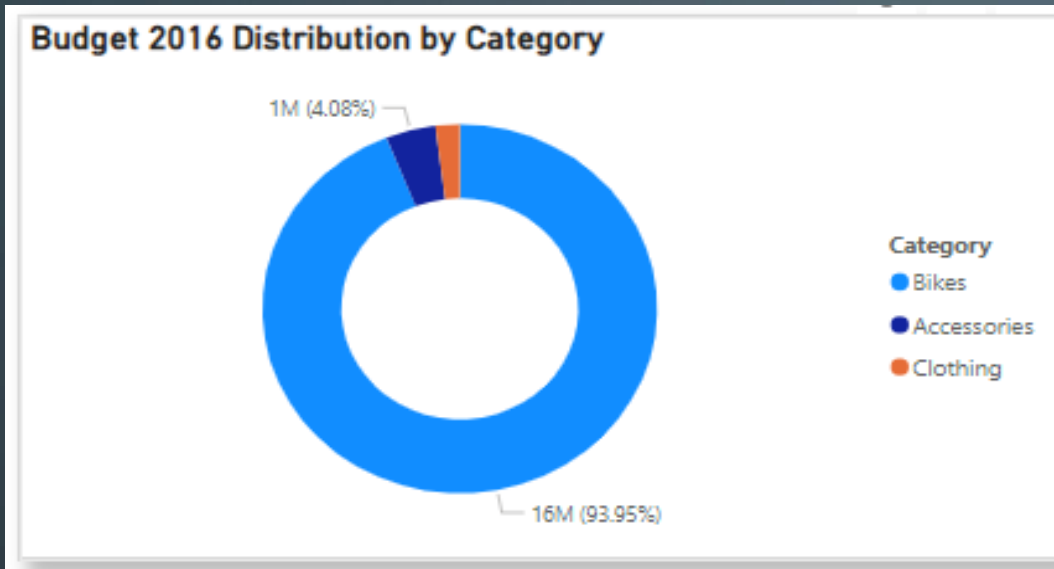
➤ Black and Red is most sought color among the customers.

➤ Silver and Yellow is second most sought color among the customers.



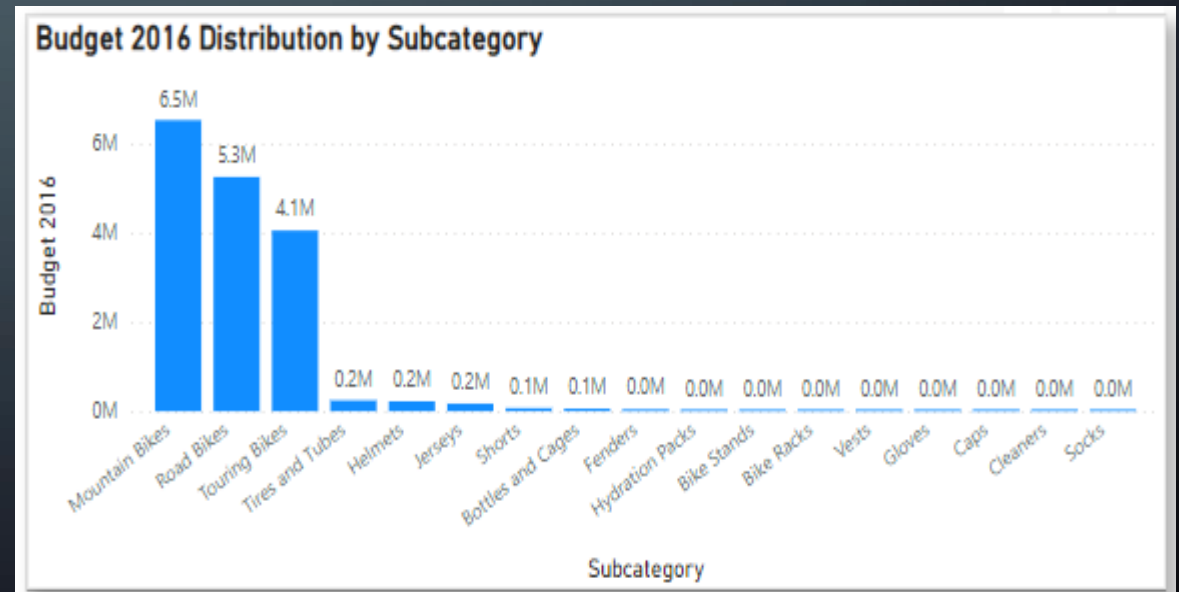
- Company sales has been more or less stable from Jan 2014 to Jul 2014.
- From Jan 2015 to Jul 2015 company has seen a slight decline in sales.
- After Oct 2015 company has been experiencing a good rate of increment in sales and it continued till Jan 2017.

# Budget Data



➤ 94% of the budget goes to Category Bikes.

➤ Mountain bikes has the maximum budget.



# KEY PERFORMANCE INDICATOR

- Distribution of customers and sales with respect to Countries.
- Distribution of sales with respect to the product category.
- Distribution of sales with respect to the product sub-category.
- Change of total sales with respect to time.
- Distribution of sales with respect to yearly income of the customers.
- Budget distribution with respect to product category and sub-category.

# CONCLUSION

- 96.62% of sales comes from the category of product 'Bikes', but only 94% of budget goes to 'Bikes'.
- Among the product category 'bikes', more than 50% of sales comes from road bikes, but only 33% of the budget goes to the same.
- Nearly 61% of the sales comes from only two countries i.e. United States and Australia.
- Nearly 56% of the sales happened in black and red color and 34% of sales happened in silver and yellow color products.
- Gender and Marital status distribution of customers is more or less the same.
- Per customer sales of Australia is significantly more than that of United States.
- Company has experienced a significant increase in both profit and sales throughout the year 2016.