

Sales and Inventory Analysis

SQL SCRIPTS USED :

Views:

1. Aggregate sales by product, category, and customer:

```
CREATE VIEW SalesByProductcategoryCustomer AS
SELECT
    p.ProductID,
    pc.Name AS ProductCategoryName,
    c.CustomerID,
    SUM(sod.LineTotal) AS TotalSales
FROM [Sales].[SalesOrderDetail] sod
INNER JOIN [Sales].[SalesOrderHeader] sah ON sod.SalesOrderID = sah.SalesOrderID
INNER JOIN [Production].[Product] p ON sod.ProductID = p.ProductID
INNER JOIN [Production].[ProductSubcategory] psc ON p.ProductSubcategoryID =
    psc.ProductSubcategoryID
INNER JOIN [Production].[ProductCategory] pc ON psc.ProductCategoryID =
    pc.ProductCategoryID
INNER JOIN [Sales].[Customer] c ON sah.CustomerID = c.CustomerID
GROUP BY p.ProductID, pc.Name, c.CustomerID;
```

2. Calculate inventory levels by location and product :

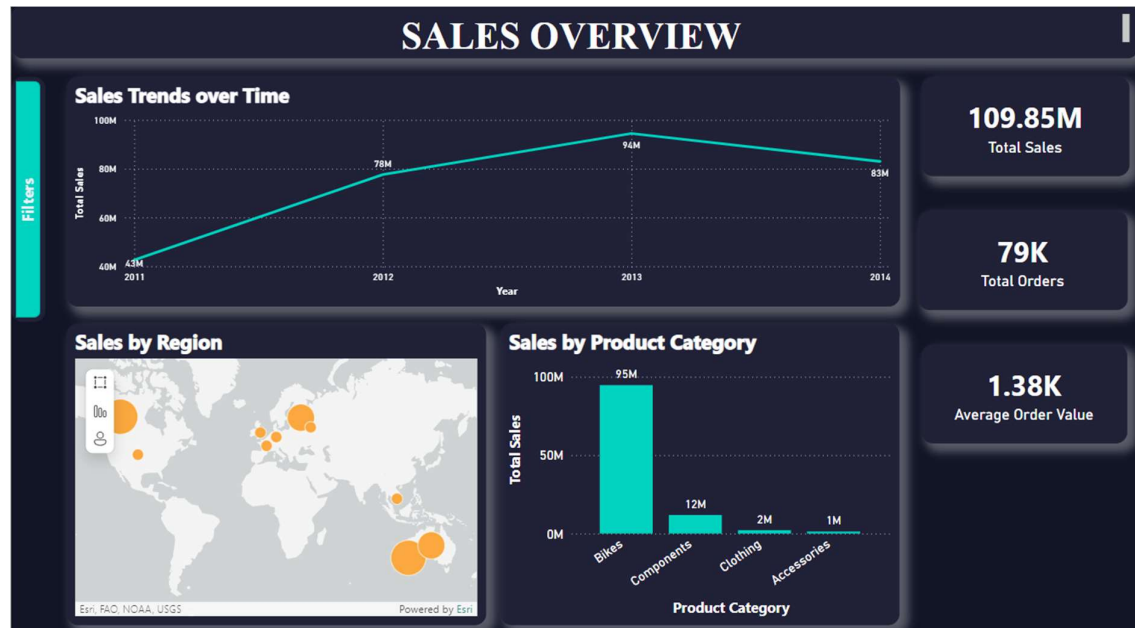
```
CREATE VIEW InventoryLevelsByLocationProduct AS
SELECT
    l.LocationID,
    l.Name AS LocationName,
    p.ProductID,
    p.Name AS ProductName,
    pi.Quantity AS InventoryLevel
FROM [Production].[ProductInventory] pi
INNER JOIN [Production].[Location] l ON pi.LocationID = l.LocationID
INNER JOIN [Production].[Product] p ON pi.ProductID = p.ProductID
```

Tables used:

1. Sales SalesOrderDetail
2. Sales SalesOrderHeader
3. Sales Customer
4. Production Product
5. Production ProductCategory
6. Production ProductSubCategory
7. Production ProductInventory
8. Production ProductModel
9. Production Location
10. Sales SalesTerritory
11. Production TransactionHistoryArchive
12. Sales SalesPerson
13. HumanResources vEmployee

Power BI report with embedded comments :

1. Sales Overview



This Sales Overview Page provides a quick overview of sales performance from 2011 to 2014. It highlights trends in total sales, the distribution of sales across regions and the breakdown of sales by product category. Users can potentially interact with the report using filters to filter the data and gain more focused insights.

1. Sales Trends Over Time

- This chart visualizes total sales over a four-year period (2011 to 2014). The X-axis represents the years and the Y-axis shows total sales in millions (M). You can hover over data points to see the exact sales figures.

2. Sales by Region

- This pie chart displays the distribution of total sales across various regions such as Australia, Canada, France, Germany and others.

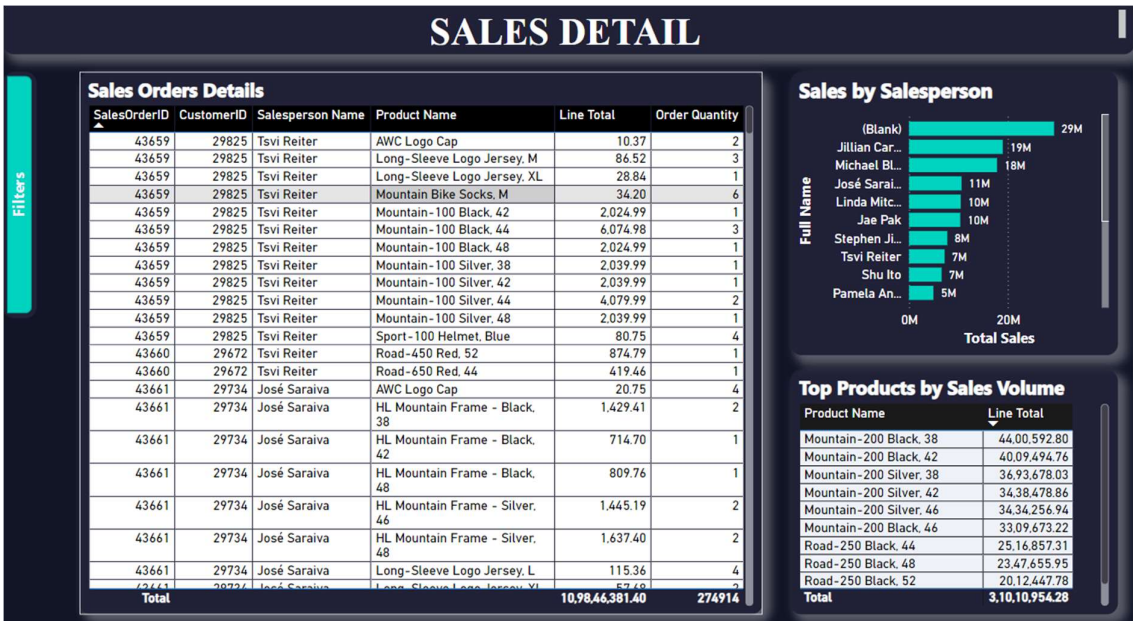
3. Sales by Product Category

- This bar chart depicts the breakdown of total sales by product category. The categories include Bikes, Components, Clothing, and Accessories. Bikes appear to be the top-selling category followed by Components, Clothing, and Accessories.

4. KPI : Total Sales, Total Orders, Average Order Value

- These Cards shows Total Sales, Total Orders, Average Order Value.

2.Sales Details



This Sales Overview Page dives into the details of your sales orders, offering insights into individual transactions and product performance. It provides a table with comprehensive information on each sales order, including customer IDs, product names, quantities sold, and line totals.

Sales Order Details

- This table displays detailed information about individual sales orders, including:
 - **SalesOrderID:** Unique identifier for each sales order.
 - **CustomerID:** Customer ID associated with the order.
 - **Salesperson Name:** Name of the salesperson who made the sale.
 - **Product Name:** Name of the product .
 - **Line Total:** Total cost of the specific product quantity within this order.
 - **Order Quantity:** Number of units of that particular product purchased in this order.

Sales by Salesperson

- This chart visualizes total sales figures achieved by each salesperson.

Top Products by Sales Volume

- This table showcases the top-selling products based on sales volume . It includes the following columns:
 - **Product Name:** Name of the product.
 - **Line Total:** Total revenue generated from the sales of this product (across all orders).

3.Inventory Overview



With the help of Inventory Overview, which gives you a thorough picture of your inventory state right now, you can decide how best to manage your stock and replenish. You may quickly view the Total amount of inventory, discover which goods are out of stock and examine inventory trends overtime.

Inventory Levels

- **Total Inventory:** This card shows total inventory quantity.
- **Out of Stock Products:** This card shows total number of products that are out of stock. **Out of Stock Products table** below shows name of products which are out of stock.

Inventory by Product

- This chart shows total inventory quantity for each product.

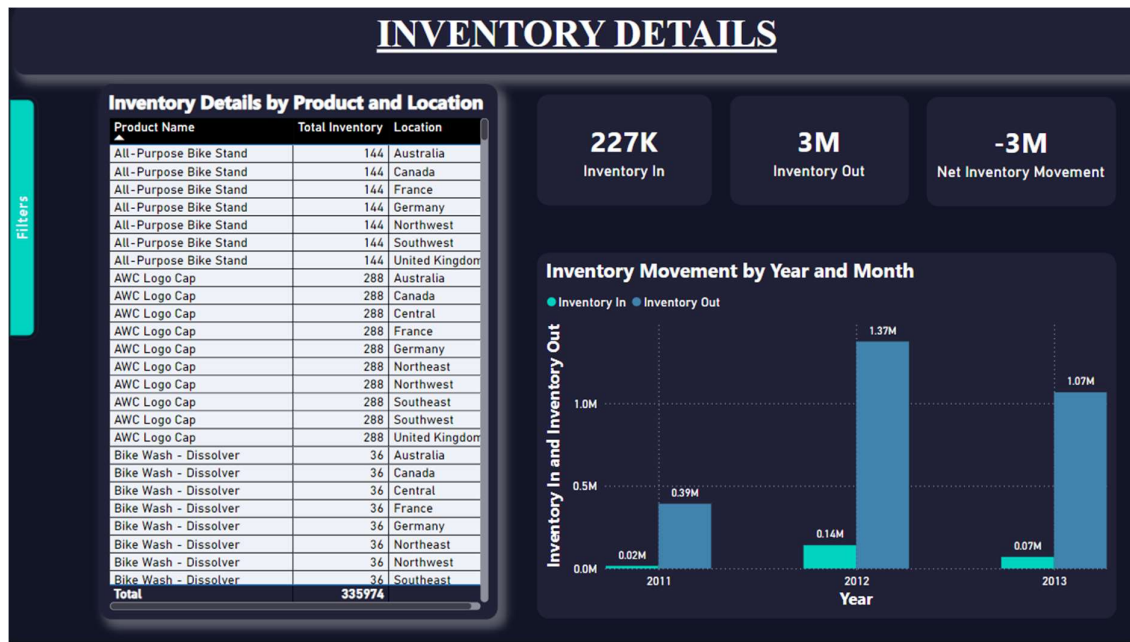
Inventory Trends Over Time

- This line chart shows the total inventory for specific period. The x-axis shows years and y-axis shows total inventory.

Inventory by Location

- A bar chart shows the total inventory for various locations such as Northwest , Southwest , United Kingdom , Canada etc

4.Inventory Detail



This Inventory Details dashboard page helps you to examine the specifics of your inventory on a product-by-location basis. It goes beyond the high-level view provided by the main inventory dashboard and offers granular insights into stock levels across various locations.

Inventory Details by Product and Location: This section focuses on inventory for specific products across various locations.

- **Products:** The table lists various products.
- **Locations:** The table displays inventory details for several locations, including Australia, Northwest , Southwest , United Kingdom , Canada etc.
- **Total Inventory:** This shows total inventory for each product.

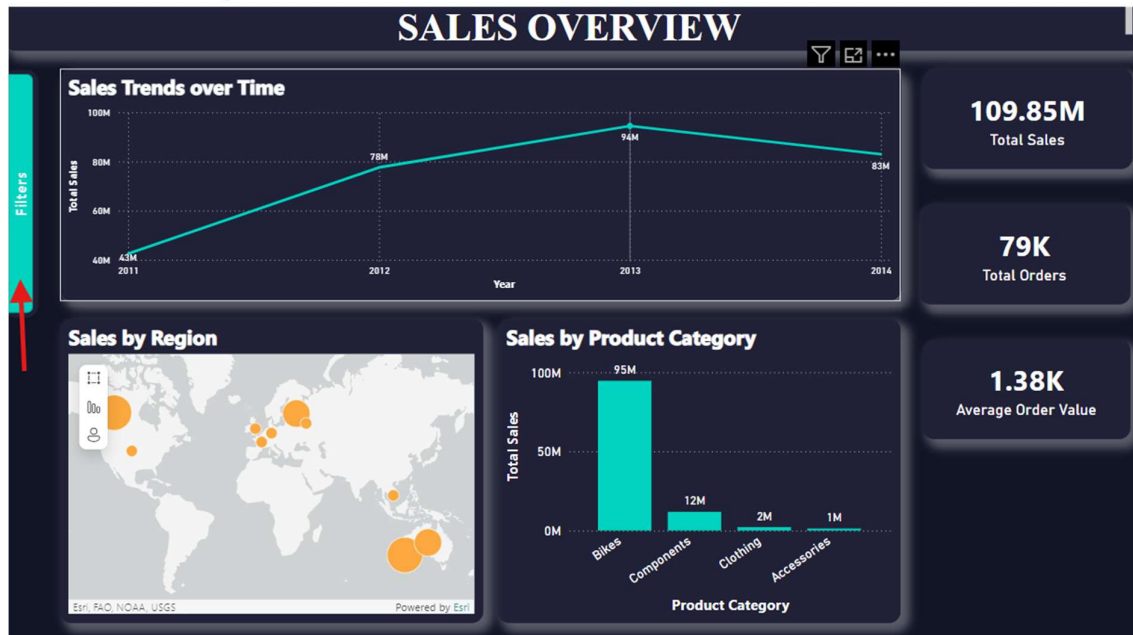
Inventory Movement by Year and Month: This bar chart provides us with two values : inventory in and inventory out based on year and month.

- Here on x-axis there are years and months provided and on y-axis inventory in and inventory out values are provided.

Inventory movement cards: There are 3 cards that provides us with 3 values : inventory in, inventory out and net inventory movement.

Filters :

Filters are provided on each page of power bi dashboard. To access it just press CTRL and click on filters located in left side of dashboard page as shown in following picture.



When you click on this Filters filter panel will open as shown in following picture.



When you press CTRL and click on icon on rightside of "filters" then filter panel will close.