# Data Analytics with Excel

# Sales Dashboard (E-commerce)

## OBJECTIVE:

To **create** a Sales Dashboard for an E-commerce dataset based on various Product Categories using Excel and its features and perform the below tasks.

Tasks to perform:

- Use the saved Sample E-Commerce database.
- Prepare a table of Sales and Profit month-wise in a working sheet.
- Prepare the sales table region-wise in the working sheet.
- Create User Control Combo box for Product Category
- Create a Column Chart of the month-wise table and region-wise table.
- Link the table with a combo box.
- Create a dashboard.

## Domain: E-Commerce

## Description:

The dataset in file **E-Commerce Dashboard dataset.xlsx** contains sales data for different product categories. The following are the features in the dataset:

| | |
|---|---|
| Order ID | Unique Order ID of a product |
| Order Date | Order Placement Date |
| Ship Date | Shipment Date of the placed order |
| Aging | Used to Create Histogram Bin |
| Ship Mode | Shipment mode of placed order |
| Product Category | Product Category |
| Product | Name of the Product |
| Sales | Sales Amount |
| Quantity | The amount or number of a material |
| Discount | A deduction from the usual cost of something |
| Profit | A financial advantage or benefit |
| Shipping Cost | The amount required to ship the placed order |
| Order Priority | Precedence of placed order |
| Customer ID | Unique Customer ID |
| Customer Name | Name of the Customer |
| City | Unique City Name |
| State | Unique State Name |
| Country | Unique Country Name |
| Region | Especially the part of a country |
| Months | The month of placing the order |

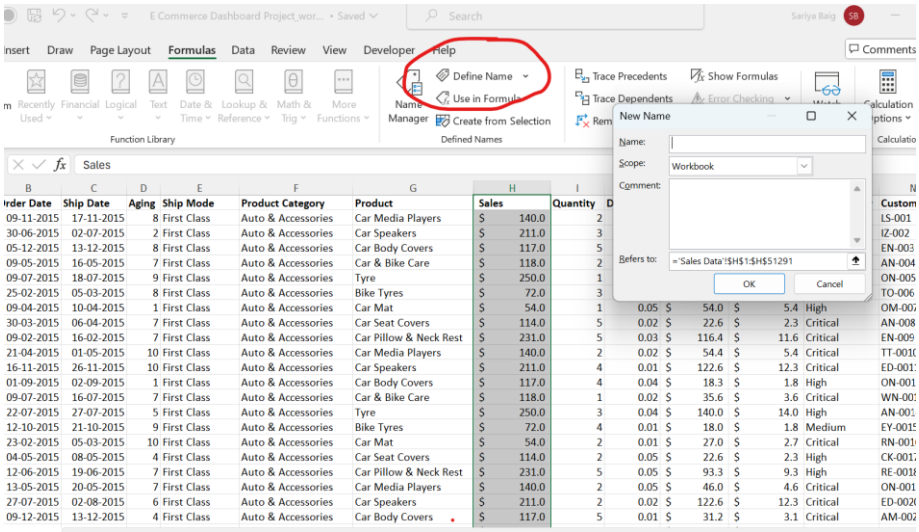
**Tools required:** Microsoft Excel, Data Analysis Add-in

**Expected Deliverables:** Design a sales dashboard that analyzes the sales based on various product categories. The company wants to add user control for product category so that users can select a category and can see the trend month-wise and product-wise accordingly.

# Steps to create the Dashboard:

Downloaded the E-commerce Dataset and created two more sheets and names them “Working” & “Dashboard”. Working sheet will have all the Tables and data to create out Dashboard.

- Used “Naming Range” to define the names for the below columns before starting the exercise.
    1. Sales column from Sales Data sheet as “Sales”.
    2. Profit Column from Sales Data sheet as “Profit”.
    3. Months column from Sales Data sheet as “Months”.
    4. Product_Category from Sales Data sheet as “Product_Category”
    5. Region from Sales Data sheet as “Region”.




- Created a Table in **Working** sheet for Sales and Profit by Month. (Also included Quantity for some extra details)

    Formula to calculate

    Sales: =+SUMIFS(Sales,Months,A11,Product_Category,+INDEX($K$6:$K$9,$K$4))
    Profit: =+SUMIFS(Profit,Months,A11,Product_Category,+INDEX($K$6:$K$9,$K$4))
    Quantity: =+SUMIFS(Quantity,Months,A11,Product_Category,+INDEX($K$6:$K$9,$K$4))

| Months | Sales | Profit | Quantity |
|---|---|---|---|
| Jan | $ 87,526.0 | $ 38,447.3 | 1829 |
| Feb | $ 85,683.0 | $ 38,753.1 | 1707 |
| Mar | $ 95,249.0 | $ 41,165.3 | 2023 |
| Apr | $ 95,962.0 | $ 42,365.8 | 1917 |
| May | $ 91,445.0 | $ 40,871.8 | 1861 |
| Jun | $ 96,597.0 | $ 42,010.3 | 2021 |
| Jul | $ 91,690.0 | $ 40,958.9 | 1887 |
| Aug | $ 88,153.0 | $ 38,237.9 | 1860 |
| Sep | $ 89,216.0 | $ 39,656.0 | 1767 |
| Oct | $ 97,347.0 | $ 43,305.2 | 1938 |
| Nov | $ 88,575.0 | $ 39,016.4 | 1755 |
| Dec | $ 89,696.0 | $ 39,489.6 | 1830 |

- Created Table 2 for Sales by Region wise data in **Working** sheet.

  Formula to calculate

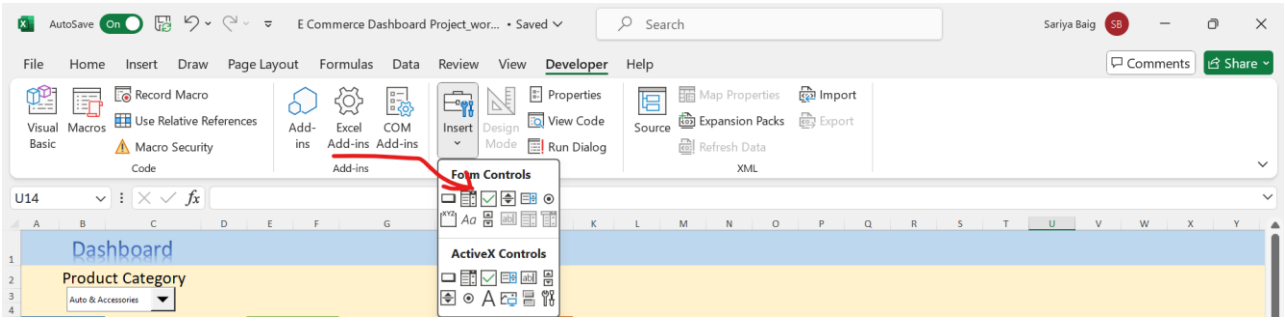
  Sales: =+SUMIFS(Sales,Region,F11,Product_Category,+INDEX($K$6:$K$9,$K$4))

| Region | Sales | Maximum |
|---|---|---|
| Africa | 102156 | |
| Canada | 10382 | |
| Caribbean | 32493 | |
| Central | 227929 | 227929 |
| Central As | 35956 | |
| East | 72321 | |
| EMEA | 102947 | |
| North | 100025 | |
| North Asia | 56978 | |
| Oceania | 66631 | |
| South | 139614 | |
| Southeast | 74598 | |
| West | 75109 | |

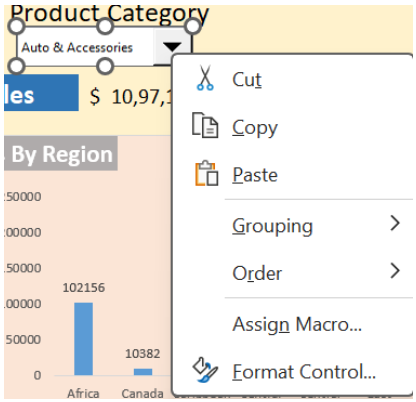
- Created a Product Category table as shown below in **Working** Sheet and list all the unique values of product categories from the sales data.

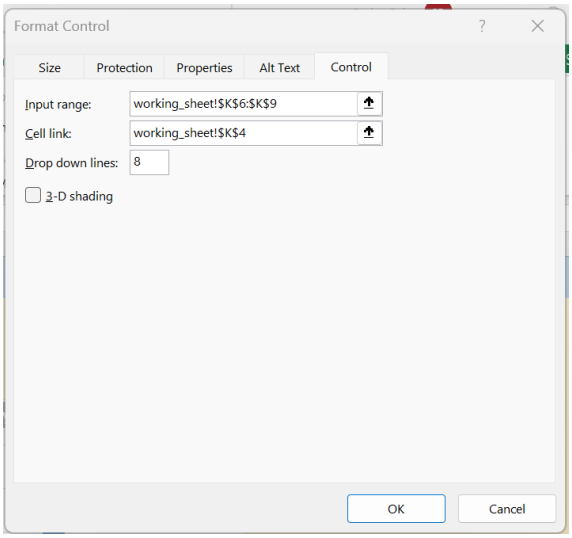
| 1 |
|---|
| **Product Category** |
| Auto & Accessories |
| Electronic |
| Home & Furniture |
| Fashion |

- Go to the **Dashboard** sheet and add a form control – Combo box from under the **Developer Tab**



- Right click on the combo box and click Format Control and a dialog box appears. Select the input range from the **working** sheet from the table – "Product Category" and give the cell link above the table. In this case Cell – K4. Now the Combo box will pick up the list of Product Categories.

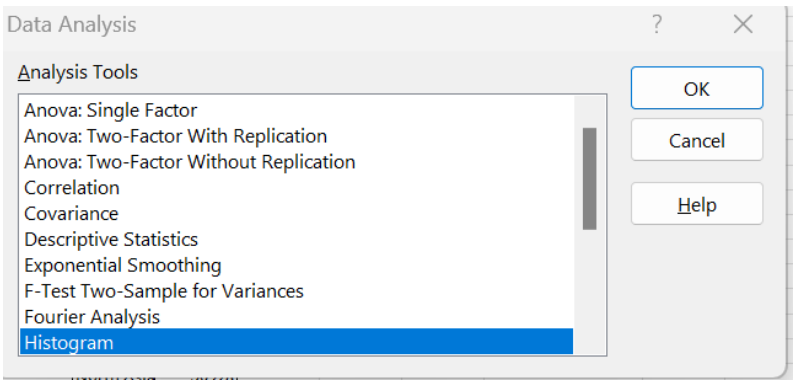


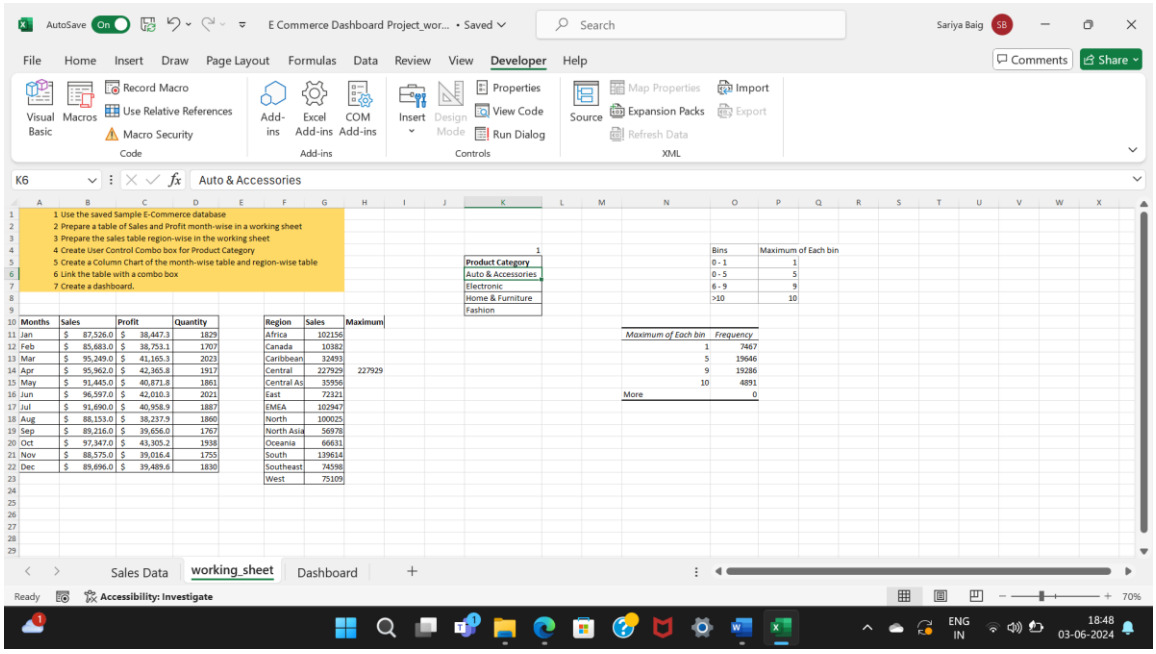

- Now we link both the Tables created previously – sales by region and Sales & Profit by Months to the product category by using the below formlulas. The product category filter is added and sales is picked up based on this filter when a category is selected on the Combo Box on the **Dashboard** sheet. Now all the tables are linked with the Combo Box.

Sales: =+SUMIFS(Sales,Months,A11,Product_Category,+INDEX($K$6:$K$9,$K$4))
Profit: =+SUMIFS(Profit,Months,A11,Product_Category,+INDEX($K$6:$K$9,$K$4))
Sales: =+SUMIFS(Sales,Region,F11,Product_Category,+INDEX($K$6:$K$9,$K$4))

- We also created a Bin for creating histogram based on Aging days. Give the maximum range of the bin and go to **Data Tab->Data Analysis -> Select Histogram**. Select the Bin Range, Input Range and output where u want the table to be created. We can also select the Chart Output in the dialog box that opens. A Frequency distribution table appears along with the Chart Output.



- The Working sheet would like like below screenshort

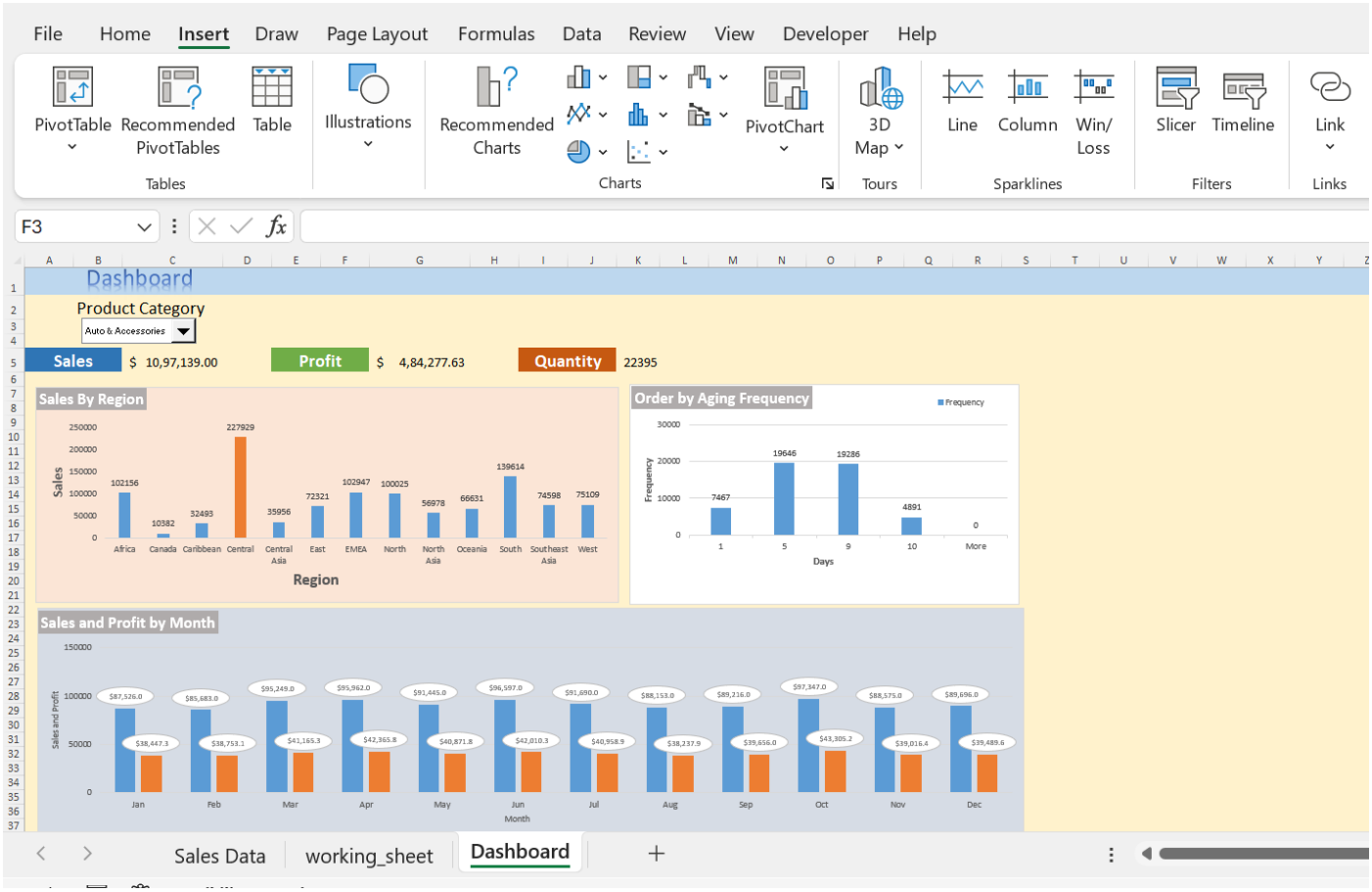



- We can now create charts by clicking on insert chart from the **Insert** menu and select the column chart on the **Dashboard** sheet. Right click and select the "**select Data**" for chart
- Sales, profit and Quantity can also be displayed on the Dashboard sheet by using the formula :

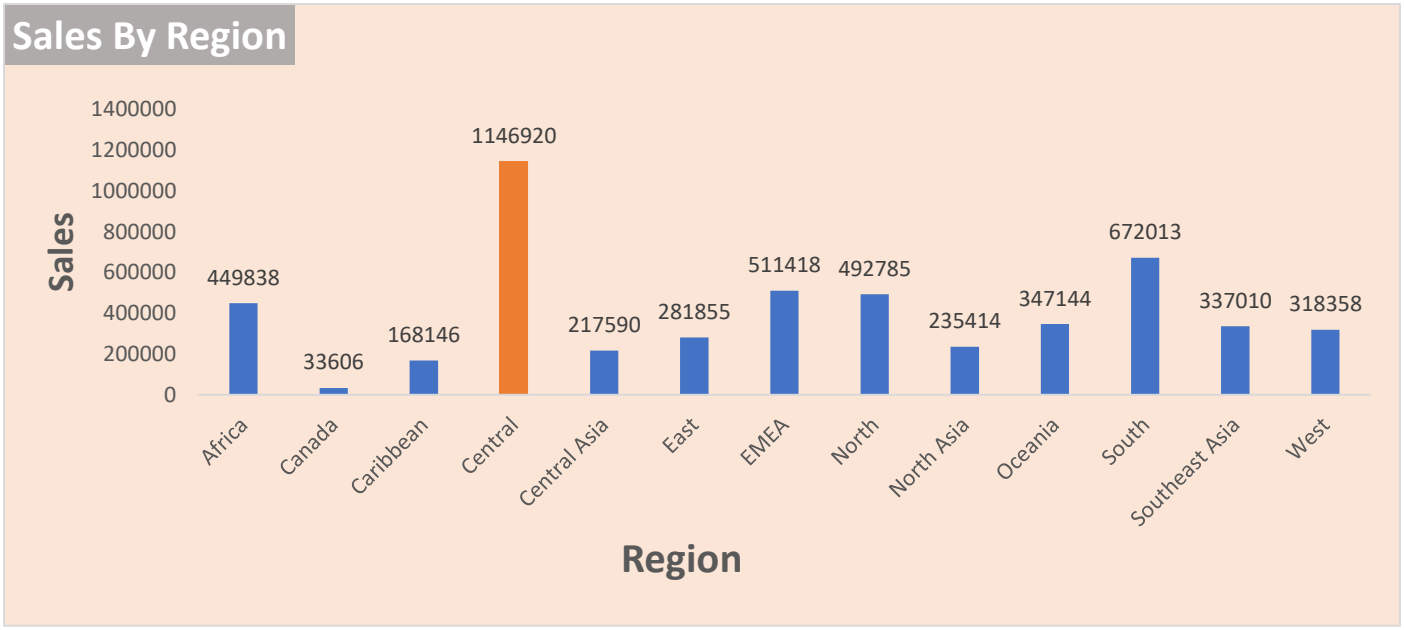
  =+SUM(working_sheet!B11:B22) - Sales

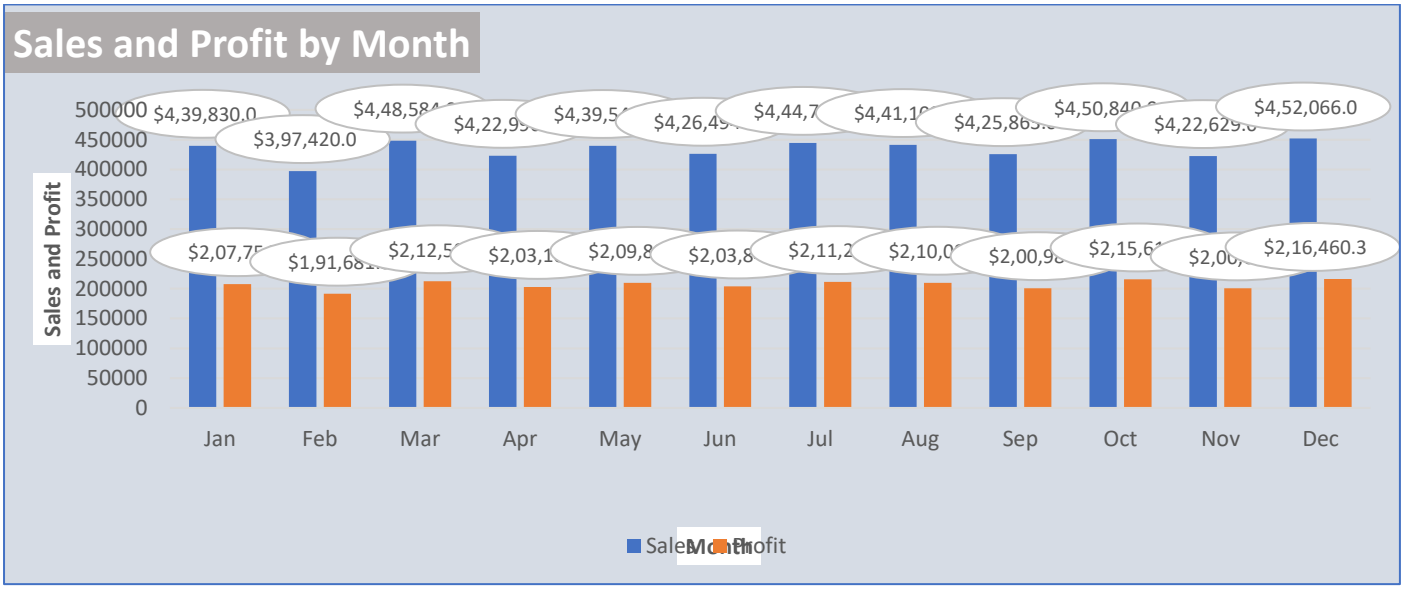
  =+SUM(working_sheet!C11:C22) - Profit

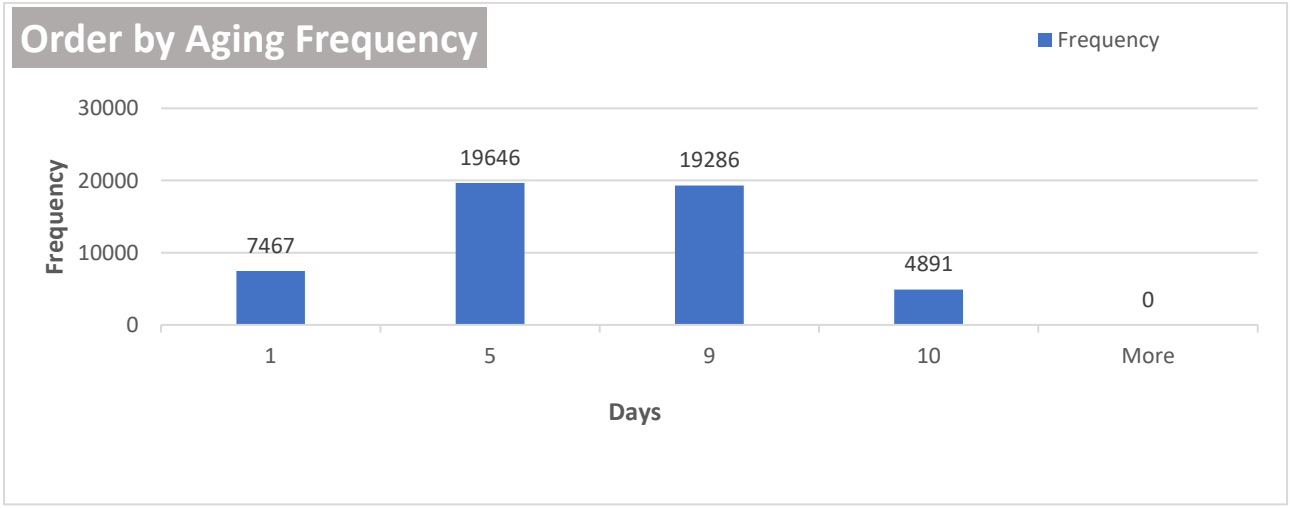
  =+SUM(working_sheet!D11:D22) – Quantity
- Formating of the charts can be done using the controls by clicking on the chart area. Now that all the charts are linked to the Product category – everytime you change the category the date and charts are updated accordingly.



**Charts:**


Sales By Region
Sales
1400000
1200000
1000000
800000
600000
400000
200000
0
449838
33606
168146
1146920
217590
281855
511418
492785
235414
347144
672013
337010
318358
Africa
Canada
Caribbean
Central
Central Asia
East
EMEA
North
North Asia
Oceania
South
Southeast Asia
West
Region


Sales and Profit by Month
Sales and Profit
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
$4,39,830.0
$3,97,420.0
$4,52,066.0
$2,16,460.3
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Sales
Profit


Order by Aging Frequency
Frequency
Frequency
30000
20000
10000
0
7467
19646
19286
4891
0
1
5
9
10
More
Days