

## 1. Connect Source Data

Open the source data Excel Sample-Superstore.xls. It will be connected and all 3 different sheets will be showing, drag Order sheet to the up right space and the detailed information of it will be shown at bottom, and order sheet will be used as a source data during the following process.

In the left side bar, the categorically descriptive fields will be shown on top and quantitative fields are at bottom, which can be used to do calculation in further process.

Tableau Public - Book1

Connections: Sample-Superstore (Microsoft Excel)

Sheets: Orders, People, Returns

Need more data? Drag tables here to relate them. Learn more

Sort fields: Data source order

Show aliases Show hidden fields 1,000 + rows

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country	City	State	Postal Code	Region
7981	CA-2011-103896	3/1/2013	7/1/2013	Standard Class	DP-19000	Darren Powers	Consumer	United States	Houston	Texas	77095	Co
740	CA-2011-112326	4/1/2013	8/1/2013	Standard Class	P0-19195	Phillina Ober	Home Office	United States	Naperville	Illinois	60540	Co
741	CA-2011-112326	4/1/2013	8/1/2013	Standard Class	P0-19195	Phillina Ober	Home Office	United States	Naperville	Illinois	60540	Co
742	CA-2011-112326	4/1/2013	8/1/2013	Standard Class	P0-19195	Phillina Ober	Home Office	United States	Naperville	Illinois	60540	Co
1760	CA-2011-141817	5/1/2013	12/1/2013	Standard Class	MB-18005	Mick Brown	Consumer	United States	Philadelphia	Pennsylvania	19143	Ea
5328	CA-2011-130813	6/1/2013	8/1/2013	Second Class	LS-17230	Lycoris Saunders	Consumer	United States	Los Angeles	California	90049	Wt
7181	CA-2011-060603	6/1/2013	7/1/2013	First Class	JO-15145	Jack O'Briant	Corporate	United States	Athens	Georgia	30605	So
7475	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7476	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7477	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7478	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7479	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7480	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So
7481	CA-2011-167199	6/1/2013	10/1/2013	Standard Class	ME-17320	Maria Etezadi	Home Office	United States	Henderson	Kentucky	42420	So

## 2. Sales by Region

All unique values of Region will be shown after dragging it into Columns and the sum for each region will be shown once simply double click on Quantity and Sales.

Drag Region into Colour to add different colours to different region.

Data Analytics Pages

Tables: Category, City, Country, Customer ID, Customer Name, Order Date, Order ID, Order Status, Postal Code, Product ID, Product Name, Region, Row ID, Segment, Ship Date, Ship Mode, State, Sub-Category, Measure Names

Filters: Measure Names

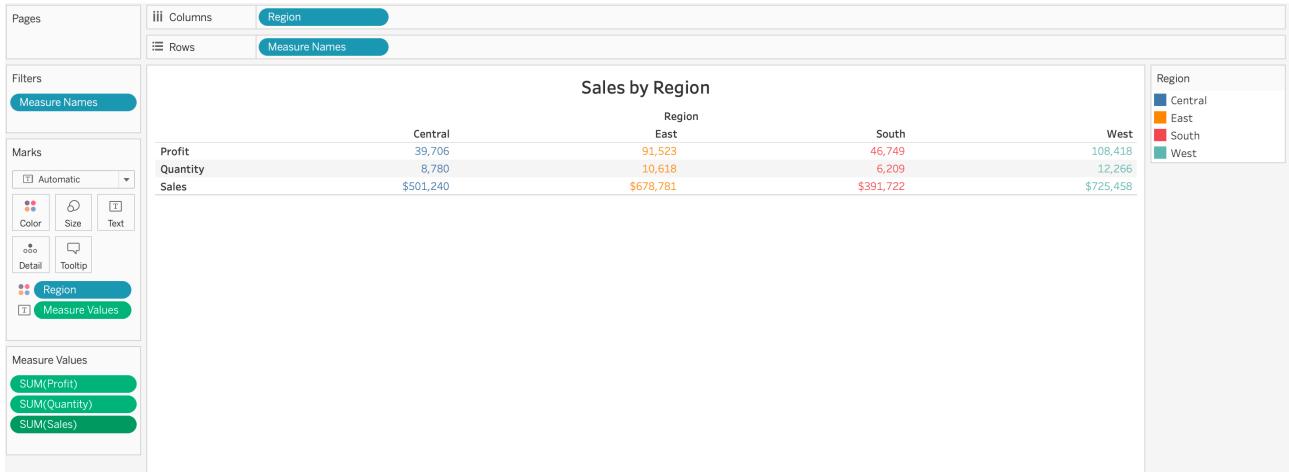
Marks: Color, Size, Text, Region, Measure Values

Measure Values: SUM(Quantity), SUM(Sales)

Region: Central, East, South, West

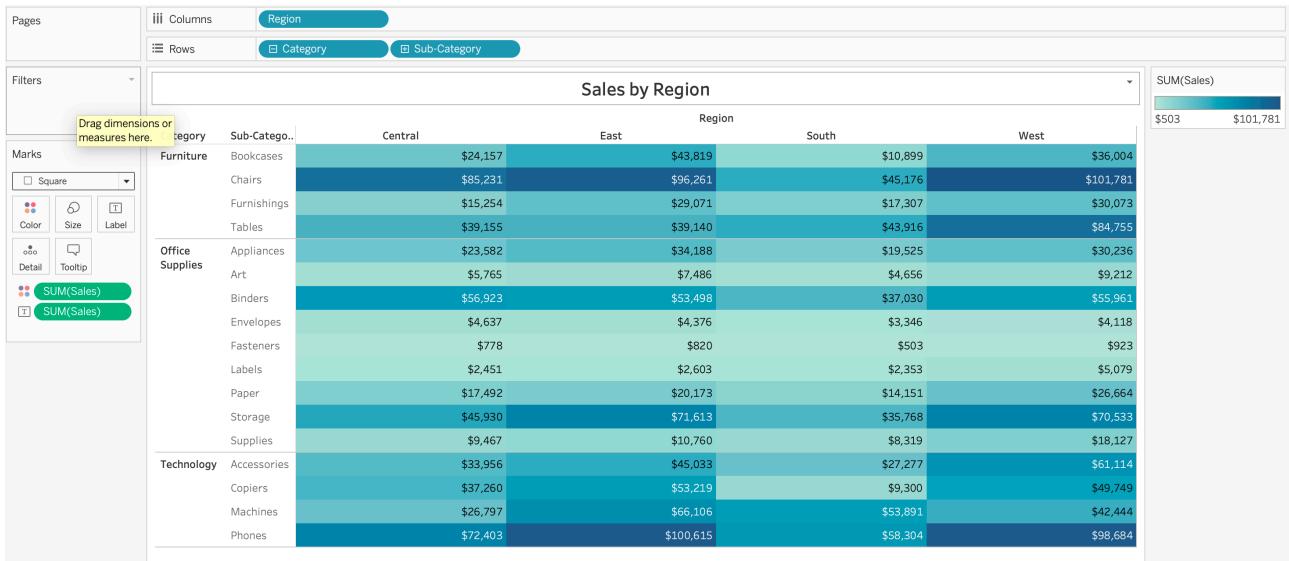
Region	Quantity	Sales
Central	8,760	501,240
East	10,618	678,781
South	6,209	391,722
West	12,766	725,458

Edit filters and more other quantitative fields can be chosen. Measure Values can be formatted, such as keep zero decimals and put a \$ sign before currency. Change Standard to Fit the width, edit the title.



Further process: add region hierarchy structure, the changes will be applied all the time after editing sale format with zero decimal with \$ sign at left measures names bar. Colour will fill in the whole square after choosing Square type.

The darkest square has the highest total sales and the sub-category can be folded up once clicking the “-” sign before category and only the detail of category will be showed.

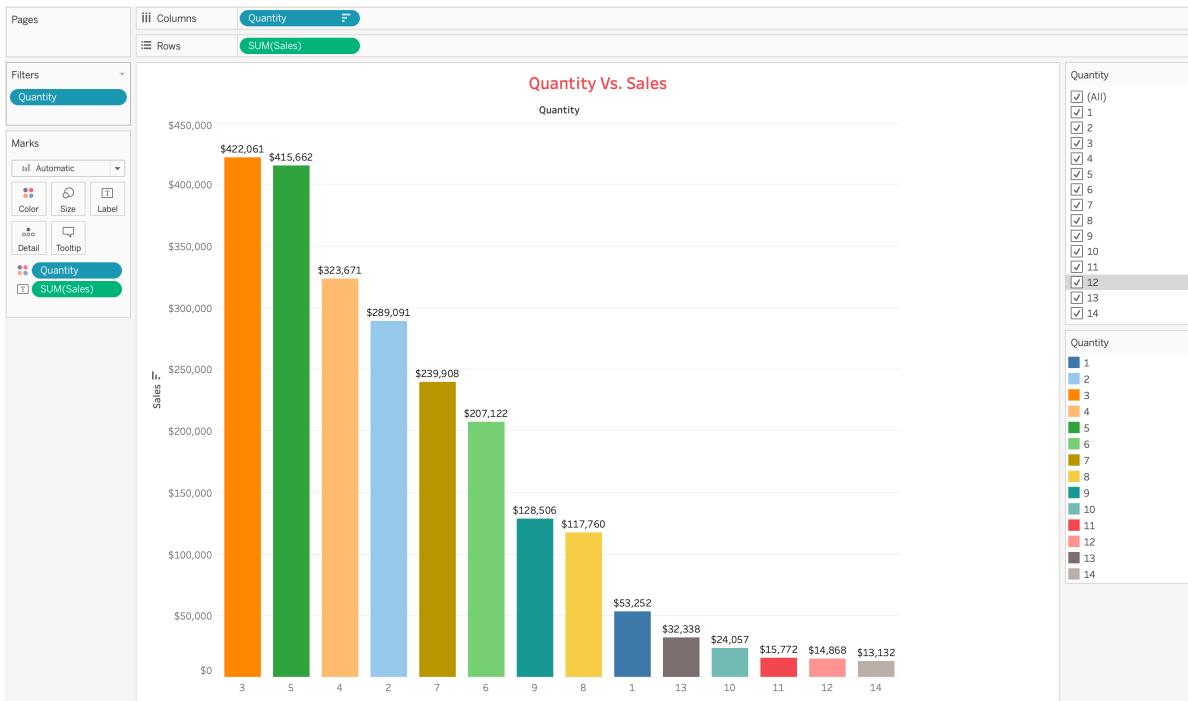


### 3. Quantity Vs. Sales

Since the quantity is finite number for the order, therefore, the correlation between quantity and sales can be visualised. Change quantity from continues into dimension and discrete type, then the sales for different quantities can be observed.



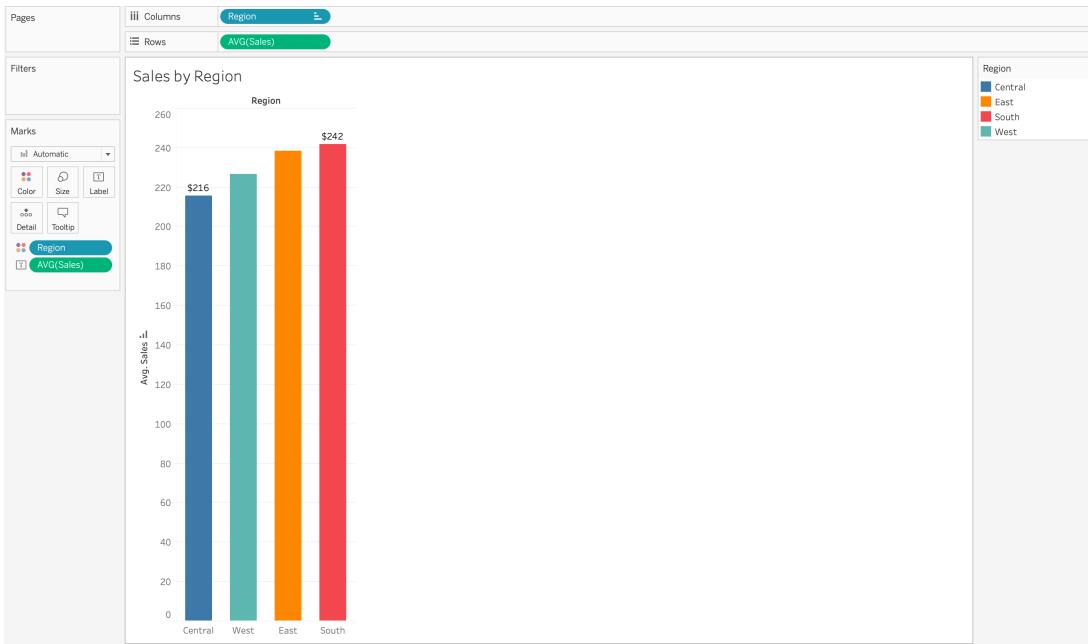
Filter and label features can be added to improve readability and interactive ability:



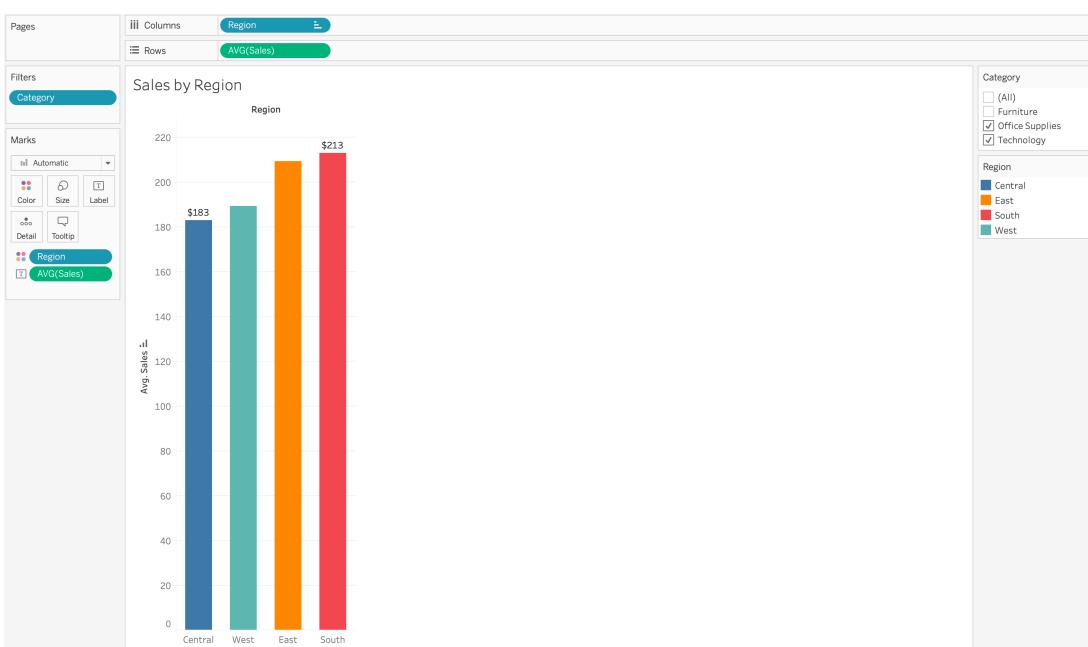
Therefore, the quantity of purchasing 3 or 5 products have a higher total sales number.

## 4. Sales by Region II

Different colour can be added by dragging region into colour or only click colour to change into one another single colour. The bar size can be adjusted through size mark. The detailed number of the sales can be added through label mark, and all labels for each bar or only some of them can be chosen through right clicking “Label” mark to choose.



Filter can be added added and show filter. The sales number will be actively changed once only some categories chose.

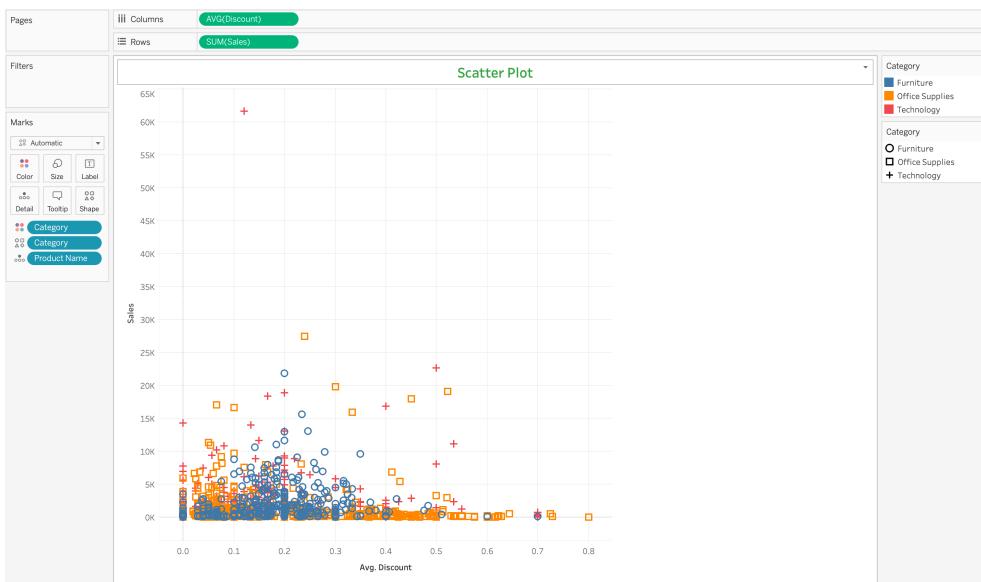


## 5. Scatter Plot

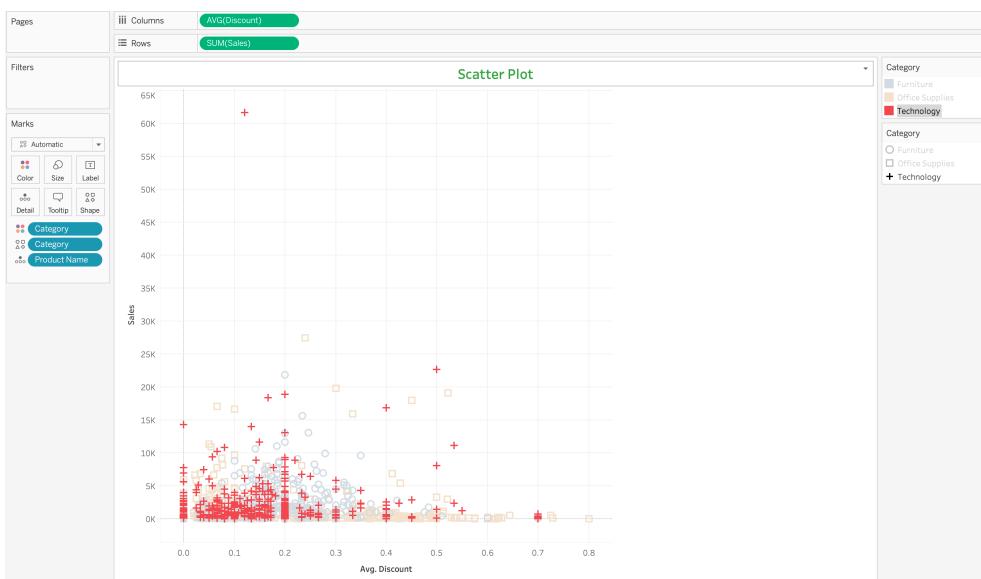
Scatter plot can be applied to study the correlation between discount and sales.

Put total sales in row and average discount in column, there is only one point showing, put product name into Detail Mark and drag category into colour and shape mark, then different category will show different colour and shape on the worksheet.

The reason why we did not choose to use product name to mark colour and shape is that there are too many different kinds of products though it can be applied.



Choose applying highlight in both category colour and shape legend, then both can be used to highlight one or more category.



## 6. Profit by Category

The application of hierarchy: there is a hierarchy structure between category, sub-category and product name. Therefore, drag subcategory and product to category and combine them into a hierarchy structure. Drag category hierarchy structure into columns and unfold it into category and sub-category.

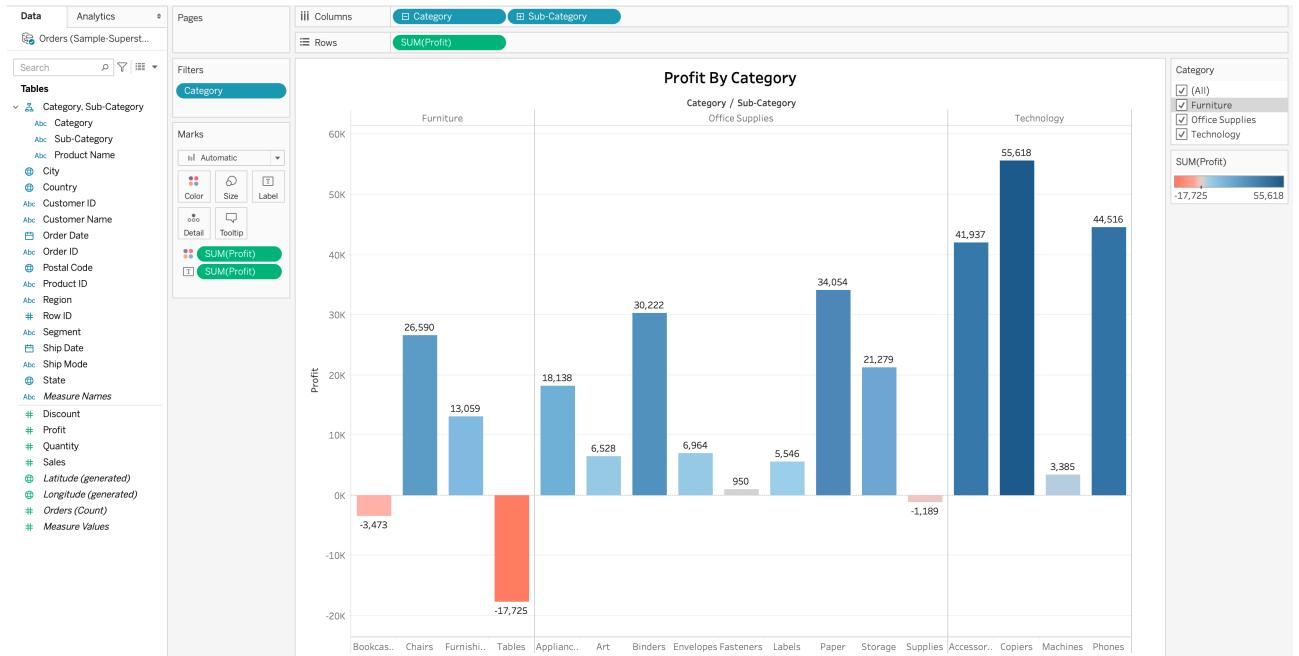
**Tables**

- Category, Sub-Category
  - Category
  - Sub-Category
  - Product Name**
- City
- Country

Columns Category Sub-Category

Rows SUM(Profit)

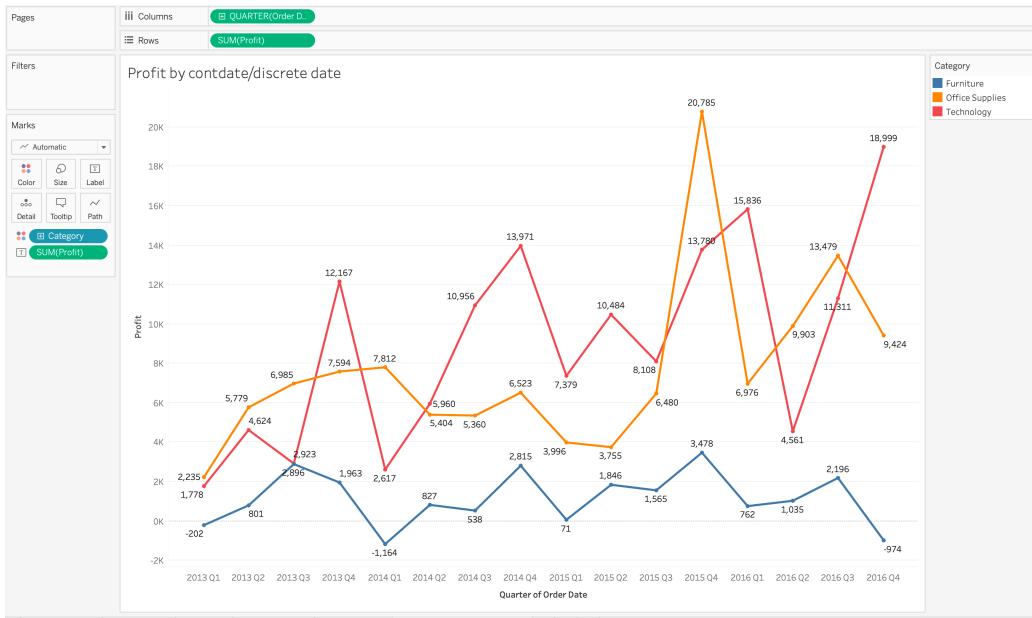
Filter can be added. And total sales can be applied to colour mark, the colour changes from dark red to dark blue according to number changes from small to big. Different colour can be used through edit colour.



The reason why we did not unfold the hierarchy structure to product name level is that there are too many different kinds of product name and it will make the plot into too much detail though it can be applied.

## 7. Profit by Continuous Date/ Discrete Date

Order date can be dragged into columns and then different hierarchy level can be chosen by clicking the drop-down list. The quarter in columns is showing as green colour when continuous date applied.



Blue colour shows that the discrete date hierarchy level has been chosen. Only distinct value is shown for discrete column, therefore, only 4 distinct quarters are shown no matter how many years period from the source data. And this is difference between continues and discrete date in use.

