

# Tableau

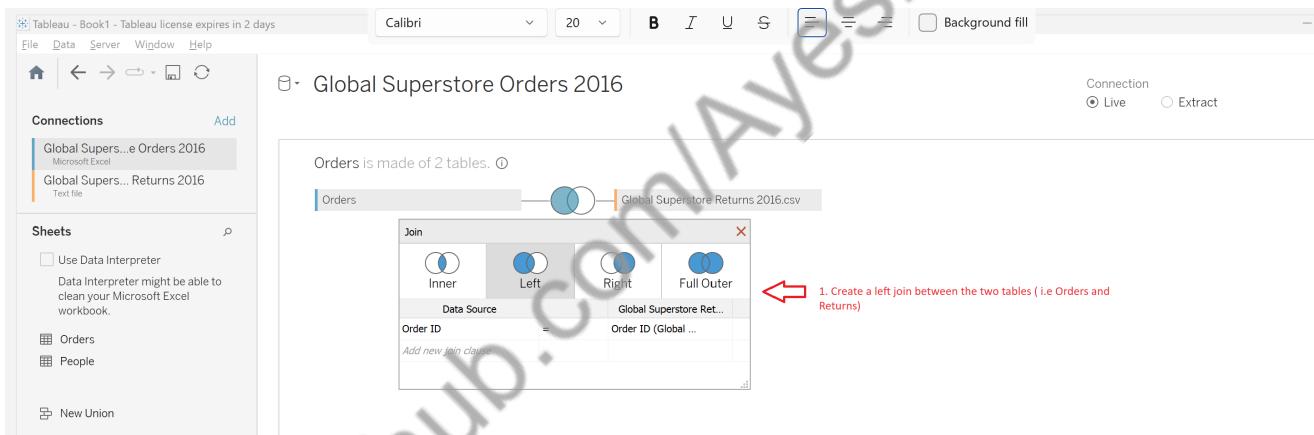
## Power Start

### Step1: Add the Data Sources

- We start by adding the two data sources .
- Navigate to Data on the title bar > Data> New Data Source > To a File> Microsoft Excel> *Global Superstore Orders 2016* .
- Follow the same for *Global Superstore Returns 2016*.

### Step2: Create a left join between the two tables

- Once the two data sources are added , drag the *Orders* table to the canvas , click on the small drop down on the table and select the open option and add the second data source *Returns* with a left join as shown in the screenshot below.



### Step3: Perform some metadata management on Row ID and Order ID columns

- Change the type from Number to String for the Row ID column
- The Order ID column has multiple parts - Distribution Centre Code, Year and two other codes
- To retain just the Distribution Centre code we perform a custom split on the Order ID column as seen below and rename the new column as Distribution Centre.

Tableau - Book1 - Tableau license expires in 2 days

File Data Server Window Help

**Connections**

- Global Superstore Orders 2016 Microsoft Excel
- Global Superstore Returns 2016 Text file

**Sheets**

- Use Data Interpreter  
Data Interpreter might be able to clean your Microsoft Excel workbook.
- Orders
- People
- New Union

**Global Superstore Orders 2016**

Orders is made of 2 tables. ⓘ

Orders Global Superstore Returns 2016.csv

Orders 27 fields 51290 rows

Abc	Order ID	Number (decimal)	Abc	Orders	Abc
Row ID	Order ID	Number (whole)	Order Date	Ship Date	Ship Date
40098	CA-2014-AB10015	1954	11-11-2014	13-11-2014	
26341	IN-2014-JR162107	2632	05-02-2014	05-02-2014	07-02-2014
25330	IN-2014-CR12730	Custom Split			
13524	ES-2014-KM1637548-41667	How should this data be split?	28-01-2014	30-01-2014	First Class
47221	SG-2014-RH9495111-41948	Use the separator	05-11-2014	06-11-2014	Same Day
22732	IN-2014-JM156557-41818	Split off	28-06-2014	01-07-2014	Second Class
30570	IN-2012-TS2134092-41219	First	06-11-2012	08-11-2012	First Class
31192	IN-2013-MR1808592-41378	1 columns	14-04-2013	18-04-2013	Standard Class

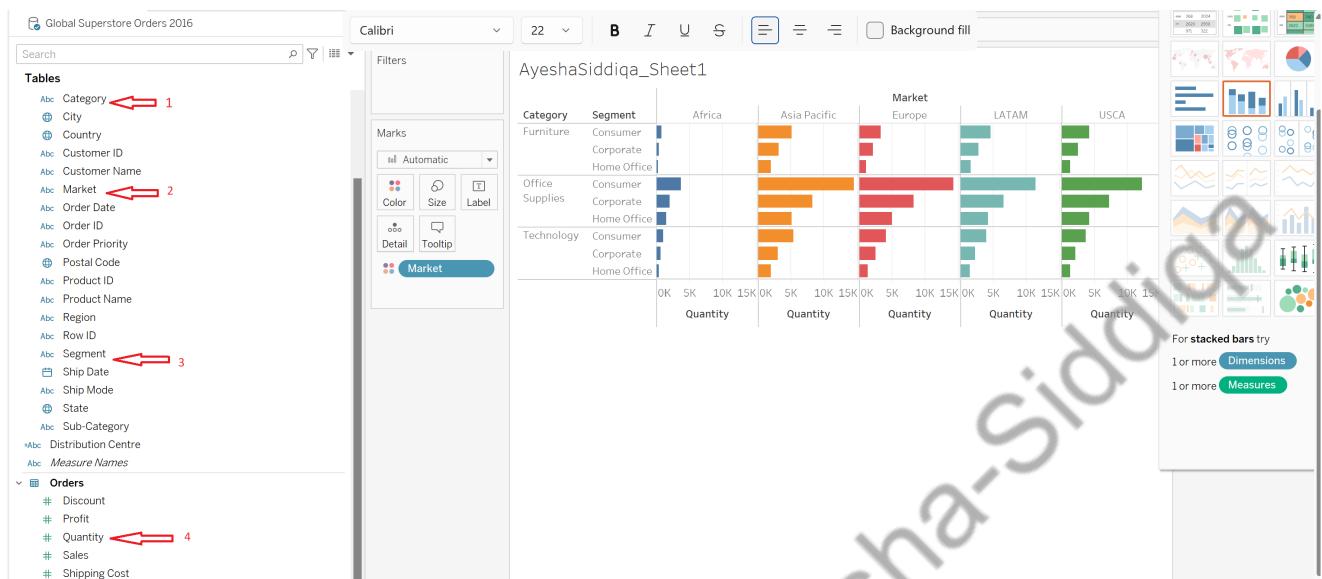
Global Superstore Returns 2016.csv

Orders 27 fields 51290 rows

Abc	Orders	Abc	Orders	Abc	Customer ID
Row ID	Order ID	Mode	Orders	Class	Customer ID
40098	CA-2014-AB10015	Mode	Orders	AB-100151402	Customer ID
26341	IN-2014-JR162107	Class	Orders	JR-162107	Customer ID
25330	IN-2014-CR12730	Class	Orders	CR-127307	Customer ID
13524	ES-2014-KM1637548-41667	First	Orders	KM-1637548	Customer ID
47221	SG-2014-RH9495111-41948	1	Orders	RH-9495111	Customer ID
22732	IN-2014-JM156557-41818	columns	Orders	JM-156557	Customer ID
30570	IN-2012-TS2134092-41219	OK	Orders	TS-2134092	Customer ID
31192	IN-2013-MR1808592-41378	Cancel	Orders	MR-1808592	Customer ID

## Step4: Create a Sheet

- Now from the dimensions drag the Category, Segment to the rows
- From measures, drag Quantity to the columns and Market to the columns and to color to get the below



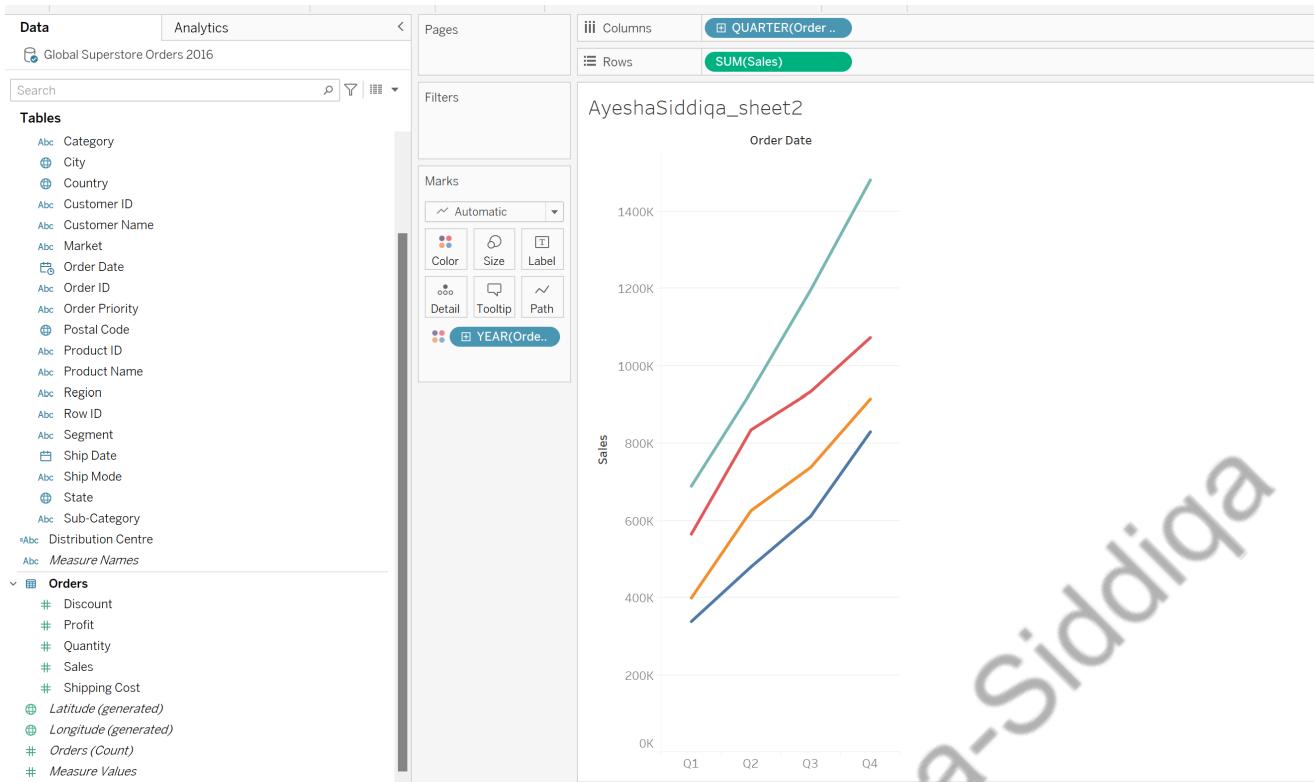
Note:

Dimensions are categorical fields which are color coded blue and are discrete (Dates, Customer ID etc.)

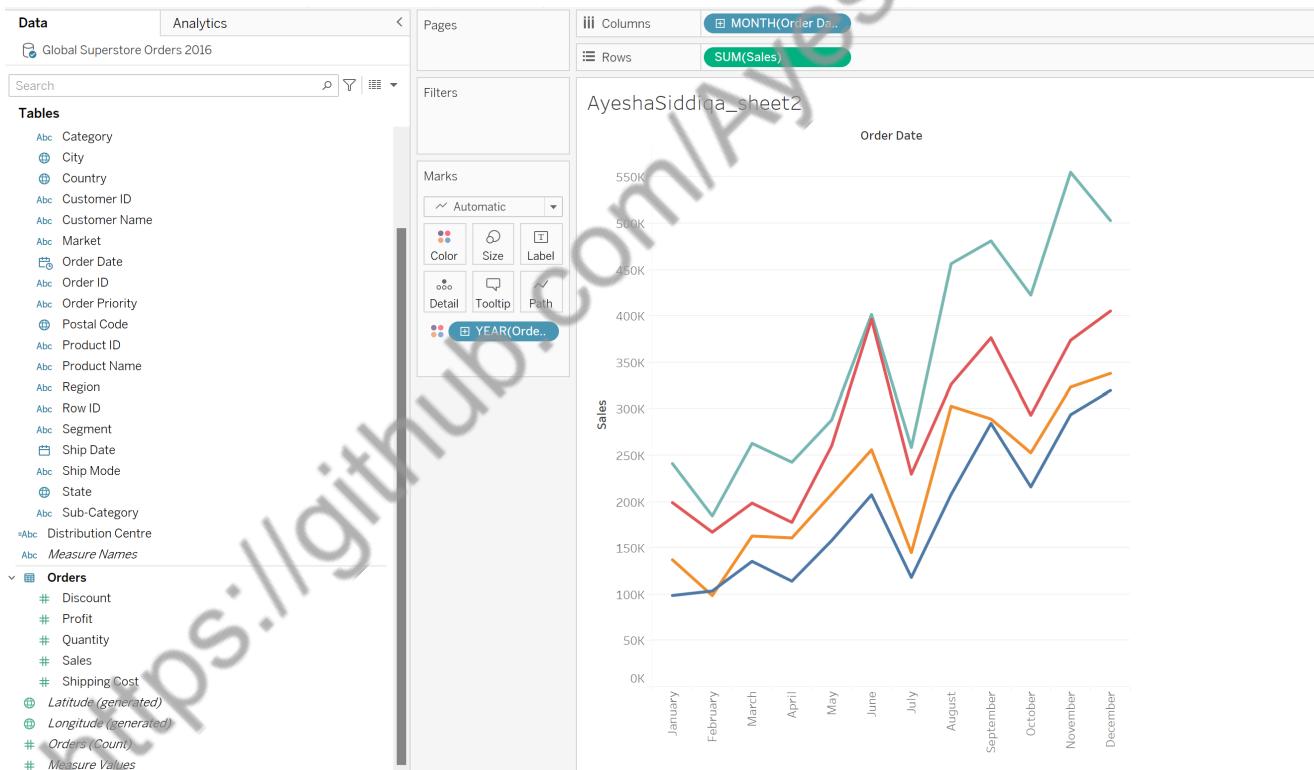
Measures are the metrics we want to analyze , which are color coded green and are continuous (Quantity etc.)

## Step5: Getting the Sales View

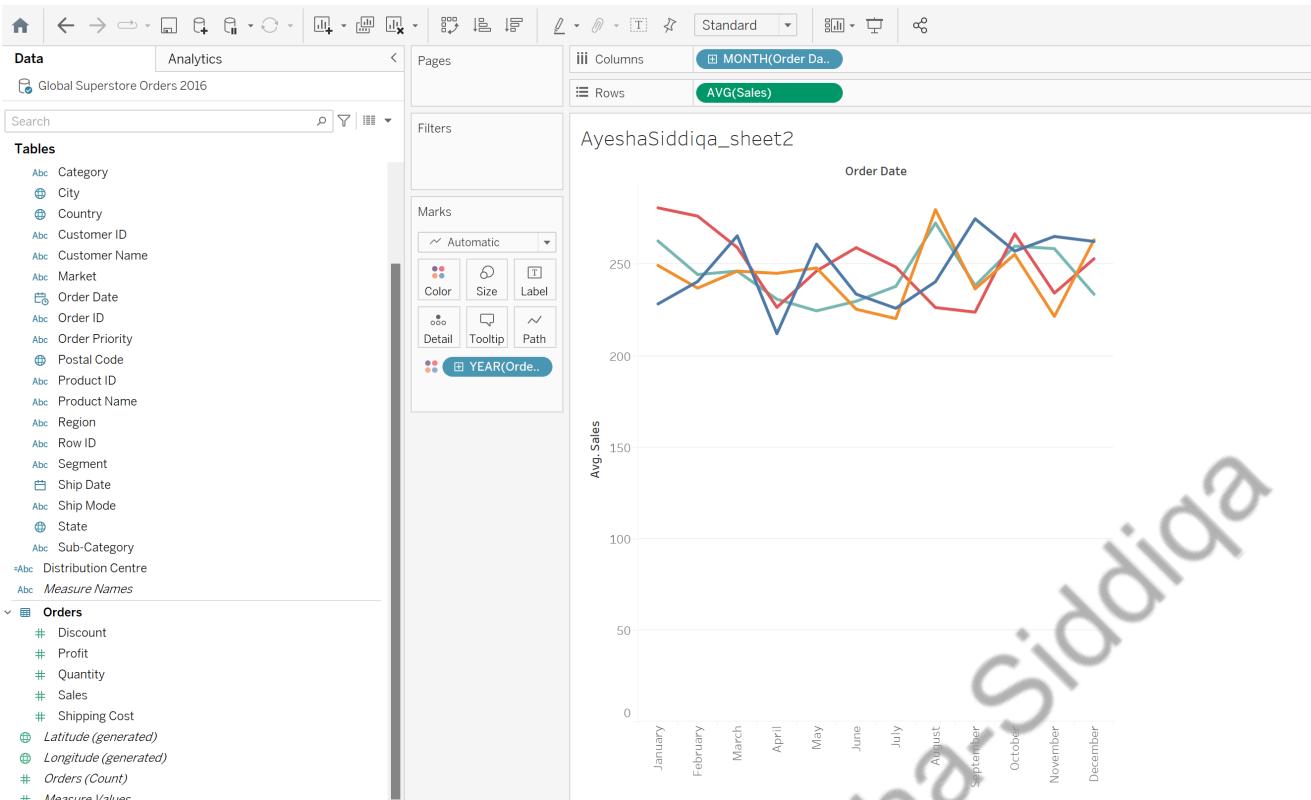
- To visualize Total Sales against Time, drag the Sales from the measures and order date on top of it to get a view like the below



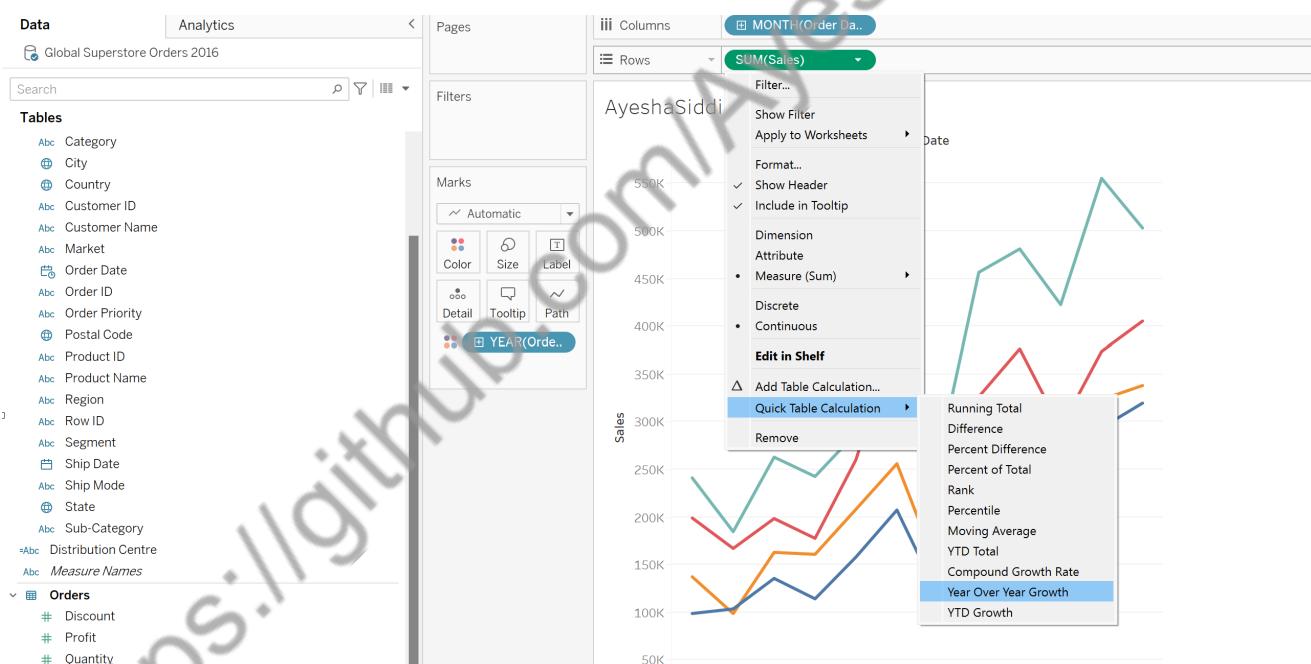
## By Quarter



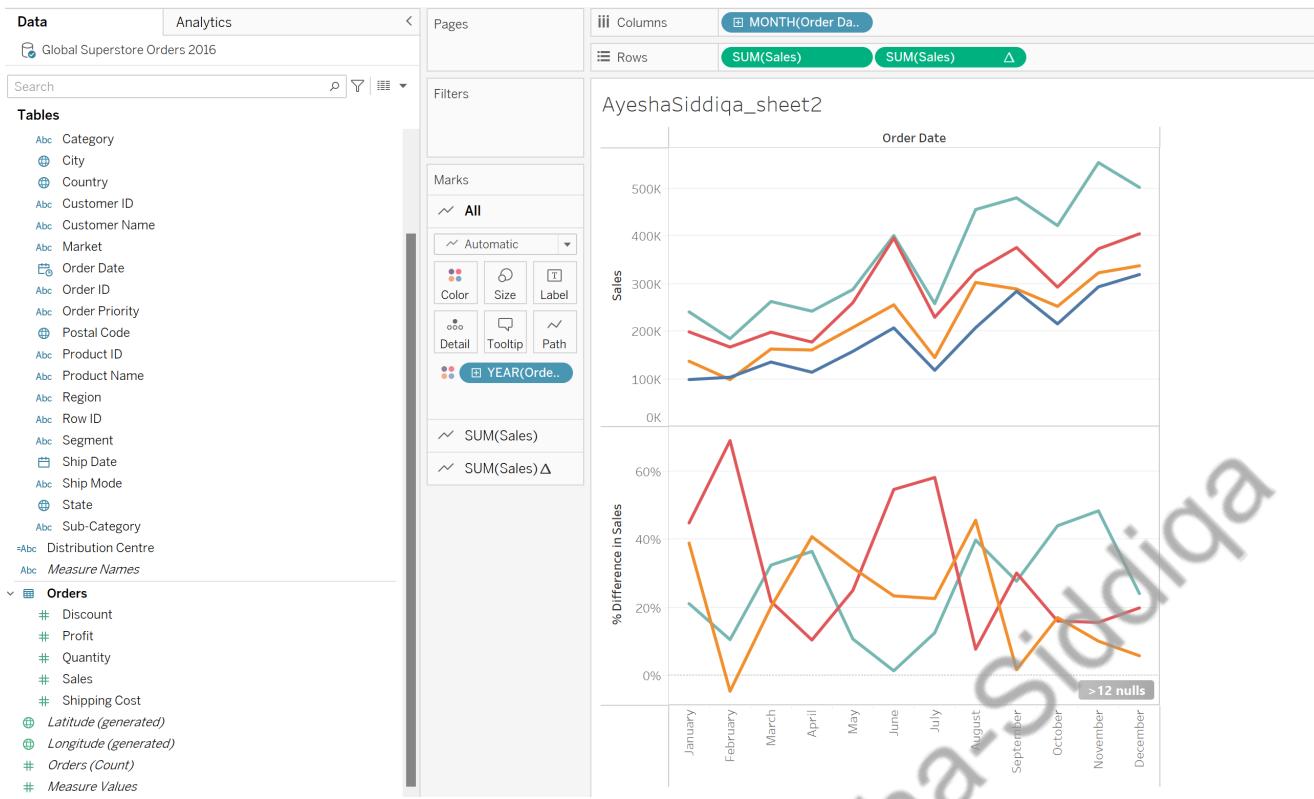
## By Month



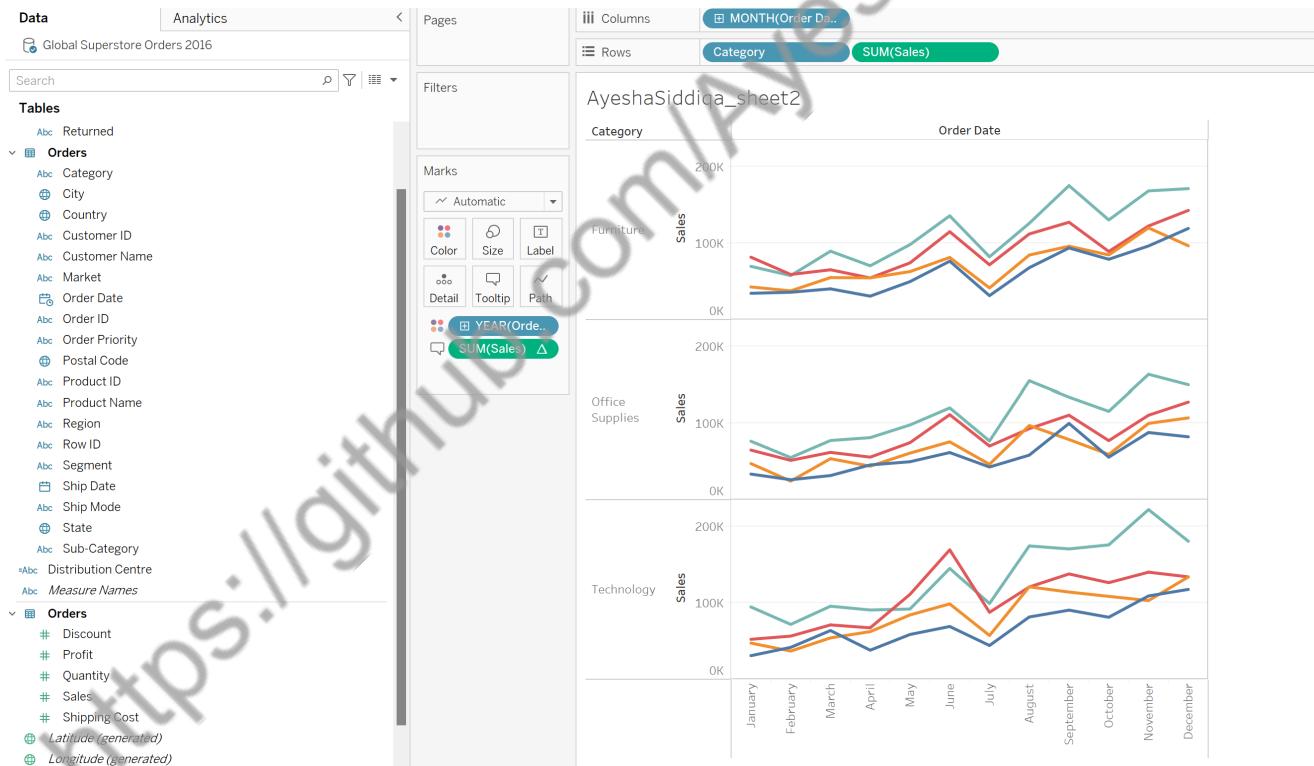
## Avg Sum



For year-over-year growth



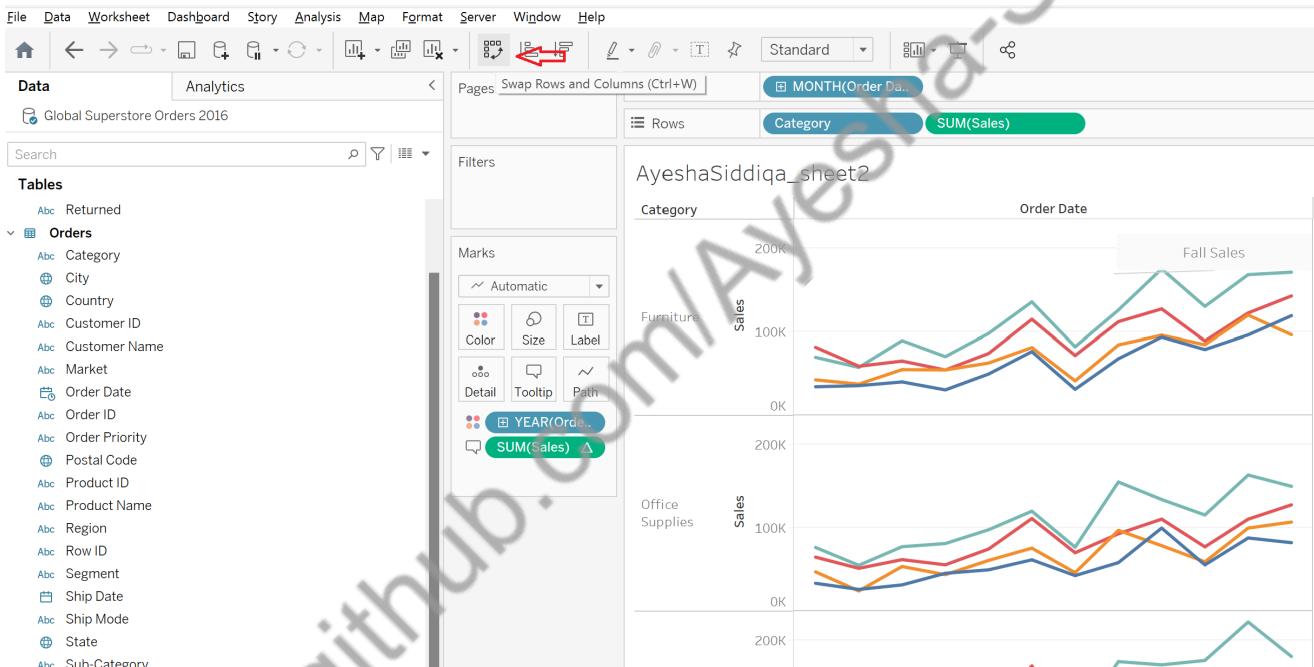
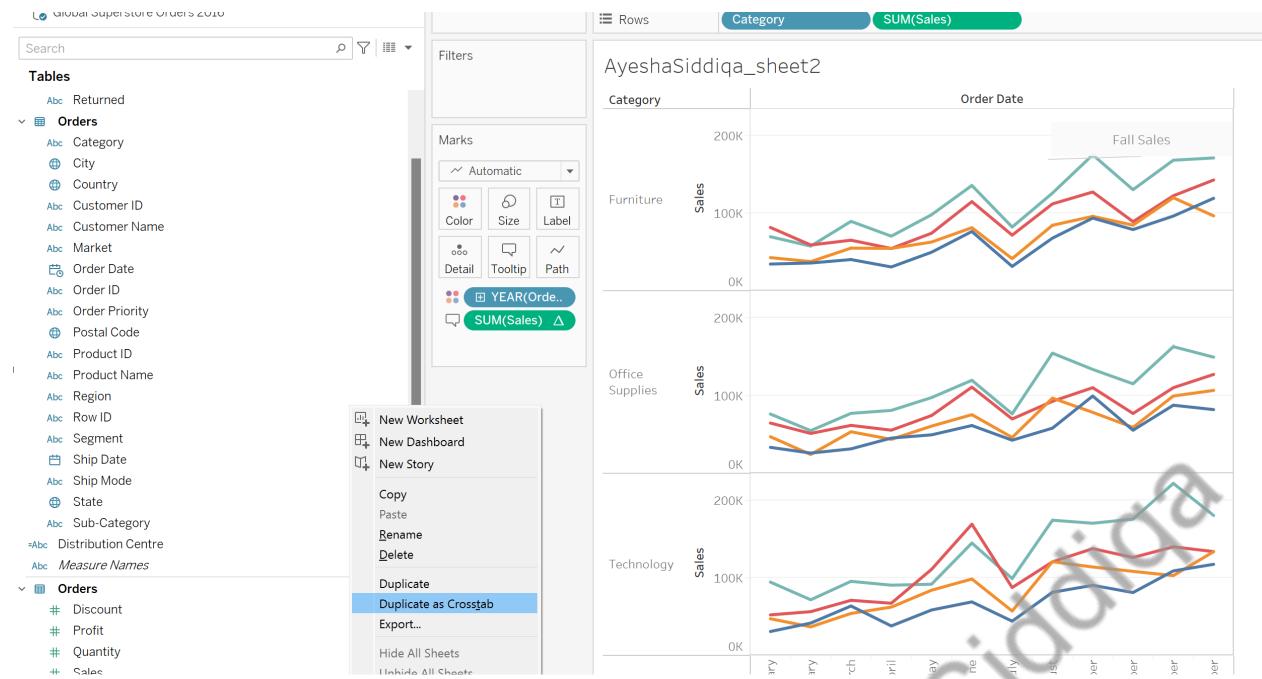
## Original Sales with Sales (Year-Over-Year growth)



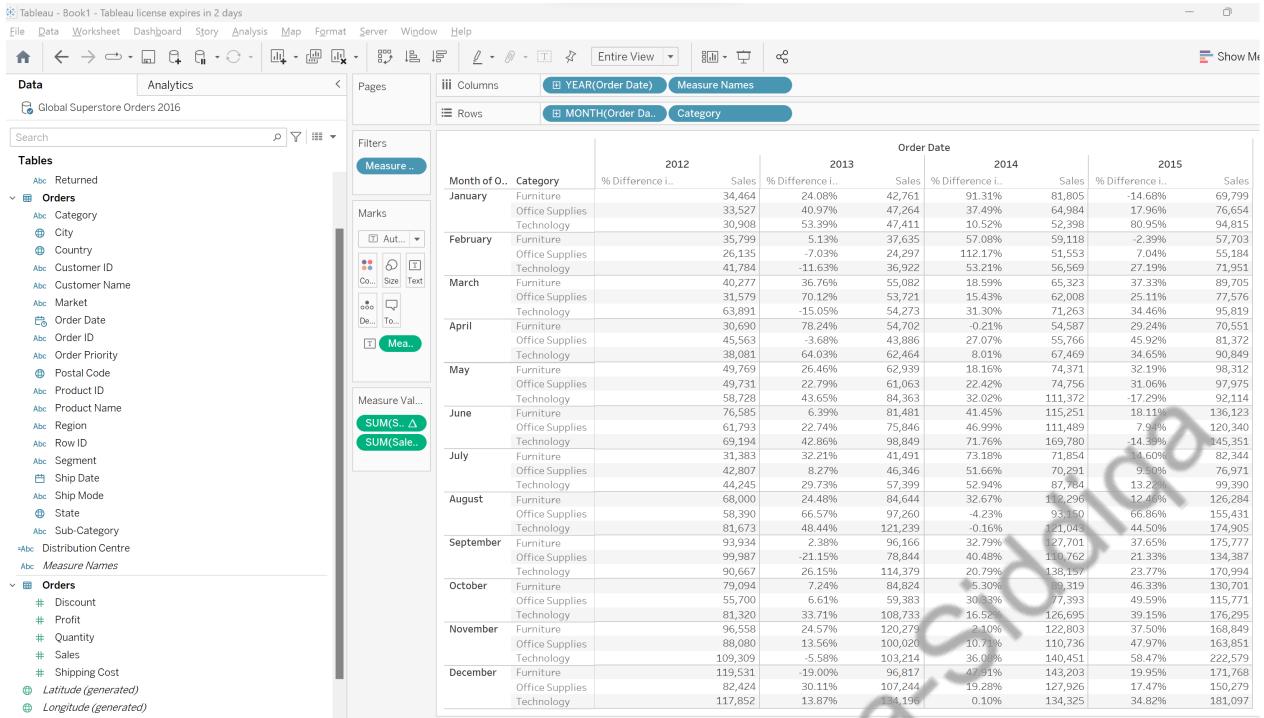
View of Categories that did well

## Step6: Getting the raw data

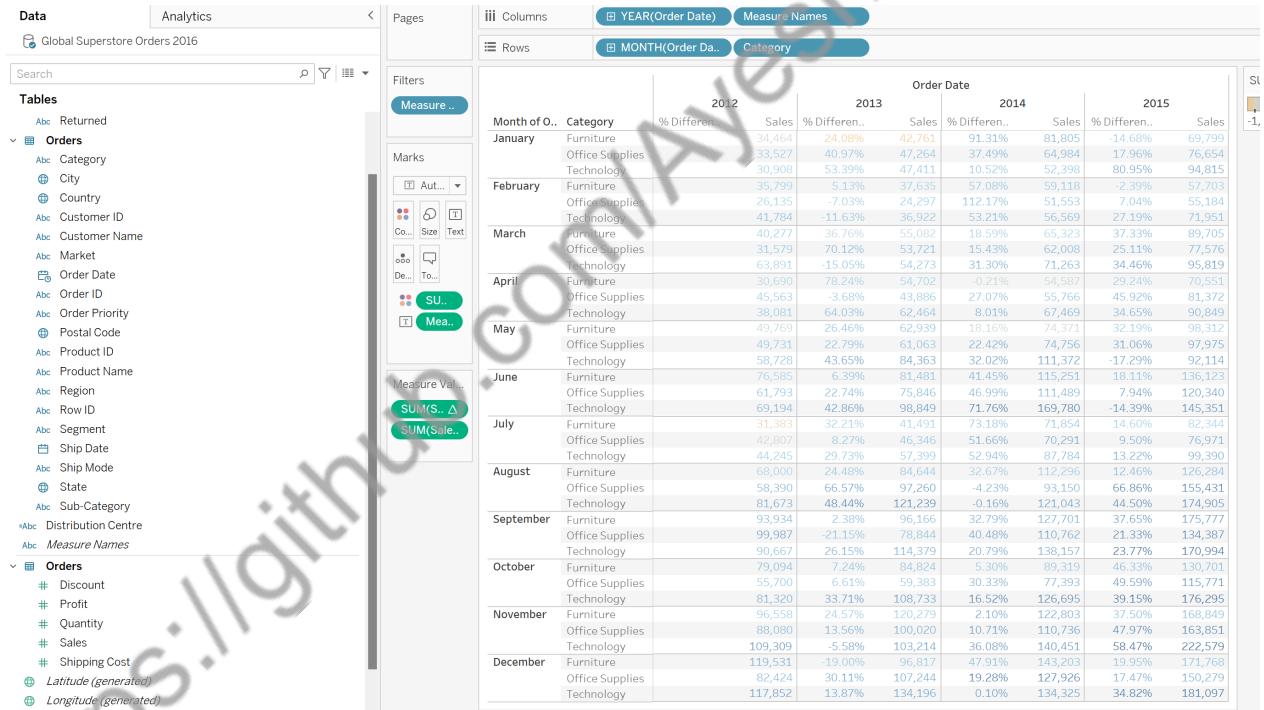
- To get the raw data , right click and select cross tab and swap axes and move category to the rows shelf



- Now hide the title and select Entire View from drop down to make it fit better



- Add Profit to color to understand the trends



- After editing the colors our table looks something like this

The screenshot shows a Tableau dashboard with a color-coded profit table. The 'Measure' dropdown in the Marks shelf is set to 'SUM(Sales)'. The 'Label' button in the Marks shelf is also highlighted with a red arrow.

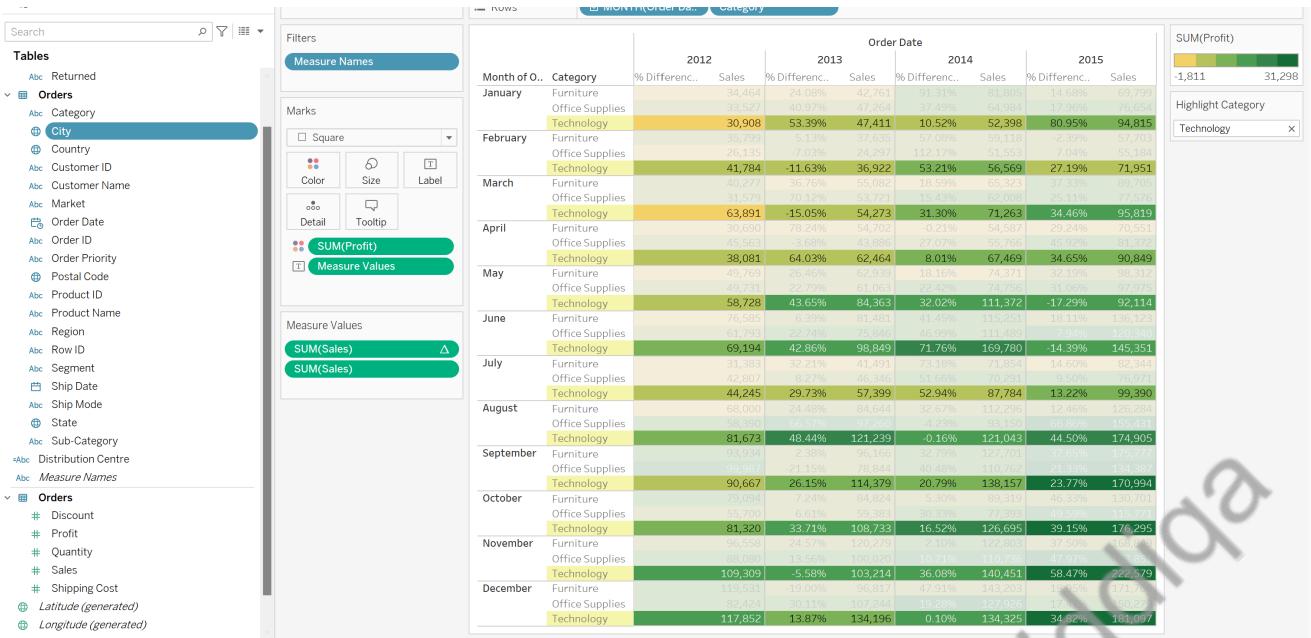
Month of O..	Category	Order Date					Sales
		2012	2013	2014	2015	Sales	
January	Furniture	34,464	24.08%	42,761	91.31%	81,805	-14.68%
	Office Supplies	33,527	40.97%	47,264	37.49%	64,984	17.96%
	Technology	30,908	53.39%	47,411	10.52%	52,396	80.95%
February	Furniture	35,799	5.13%	37,635	57.08%	59,118	-2.39%
	Office Supplies	26,135	-7.03%	24,297	112.17%	51,553	7.04%
	Technology	41,784	-11.63%	36,922	53.21%	56,569	27.19%
March	Furniture	40,277	36.76%	55,082	18.59%	65,323	37.33%
	Office Supplies	31,579	70.12%	53,721	15.43%	62,008	25.11%
	Technology	63,891	-15.05%	54,273	31.30%	71,263	34.46%
April	Furniture	30,690	78.24%	54,702	-0.21%	54,587	29.24%
	Office Supplies	45,563	-3.68%	43,886	27.07%	55,766	45.92%
	Technology	38,081	64.03%	62,464	8.01%	67,469	34.65%
May	Furniture	49,769	26.46%	62,939	18.16%	74,371	32.19%
	Office Supplies	49,731	22.79%	61,063	22.42%	74,756	31.06%
	Technology	58,728	43.65%	84,363	32.02%	111,372	-17.29%
June	Furniture	76,585	6.39%	81,481	41.45%	115,251	18.11%
	Office Supplies	61,793	22.74%	75,846	46.99%	111,489	7.94%
	Technology	69,194	42.86%	98,849	71.76%	169,780	-14.39%
July	Furniture	31,383	32.21%	41,491	73.18%	71,854	14.60%
	Office Supplies	42,807	8.27%	46,346	51.66%	70,291	9.50%
	Technology	44,245	29.73%	57,399	52.94%	87,784	13.02%
August	Furniture	68,000	24.48%	84,644	32.67%	112,296	12.45%
	Office Supplies	58,390	66.57%	97,260	-4.23%	93,150	66.86%
	Technology	81,673	48.44%	121,239	-0.16%	121,043	44.50%
September	Furniture	93,934	2.38%	96,166	32.79%	127,701	37.65%
	Office Supplies	99,987	-21.15%	78,844	40.48%	110,762	21.33%
	Technology	90,667	26.15%	114,379	20.79%	138,157	23.77%
October	Furniture	79,094	7.24%	84,824	5.30%	89,510	46.33%
	Office Supplies	55,700	6.61%	59,383	30.33%	77,393	49.59%
	Technology	81,320	33.71%	108,733	16.52%	136,695	39.15%
November	Furniture	96,558	24.57%	120,270	2.37%	122,803	37.50%
	Office Supplies	88,080	13.56%	100,120	10.71%	110,736	47.97%
	Technology	109,309	5.58%	103,114	36.88%	140,451	58.47%
December	Furniture	119,531	-19.00%	96,817	47.19%	143,203	19.95%
	Office Supplies	82,424	30.11%	107,244	19.28%	127,926	17.47%
	Technology	117,852	13.87%	134,295	0.10%	134,325	34.82%

- Change the Mark type to square and turn on the Mark labels. This brings us to the final Highlight table for Profit

The screenshot shows a Tableau dashboard with a color-coded profit table. The 'Marks' dropdown in the Marks shelf is set to 'Square'. The 'Label' button in the Marks shelf is also highlighted with a red arrow.

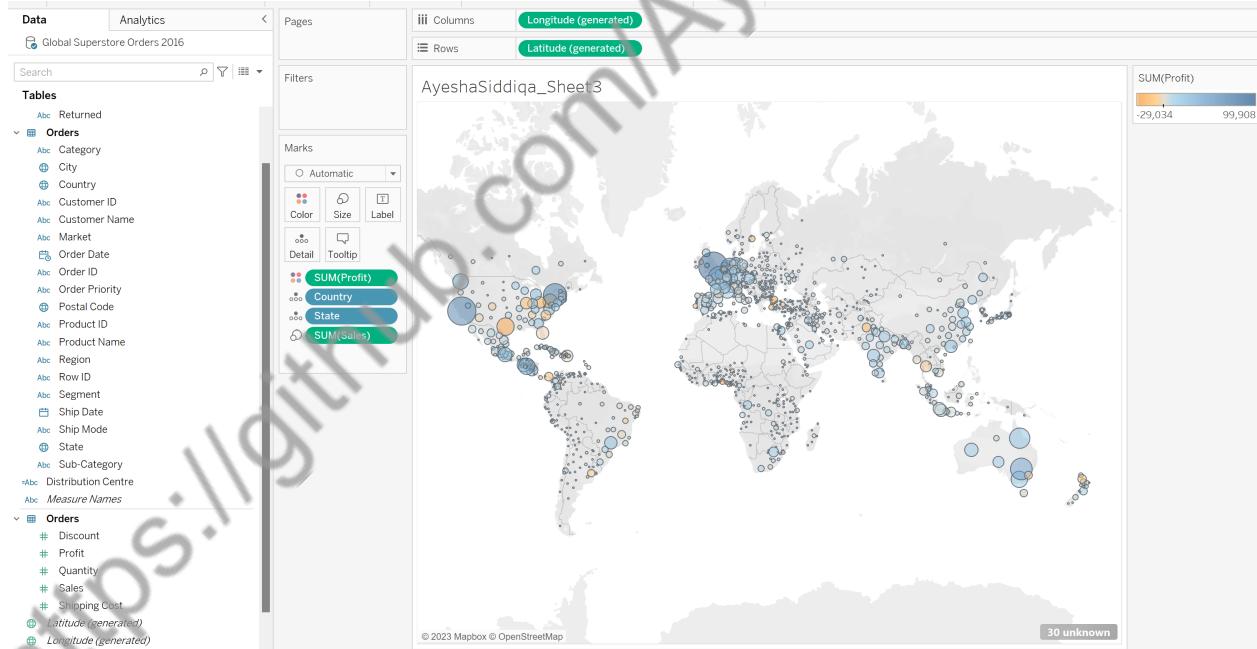
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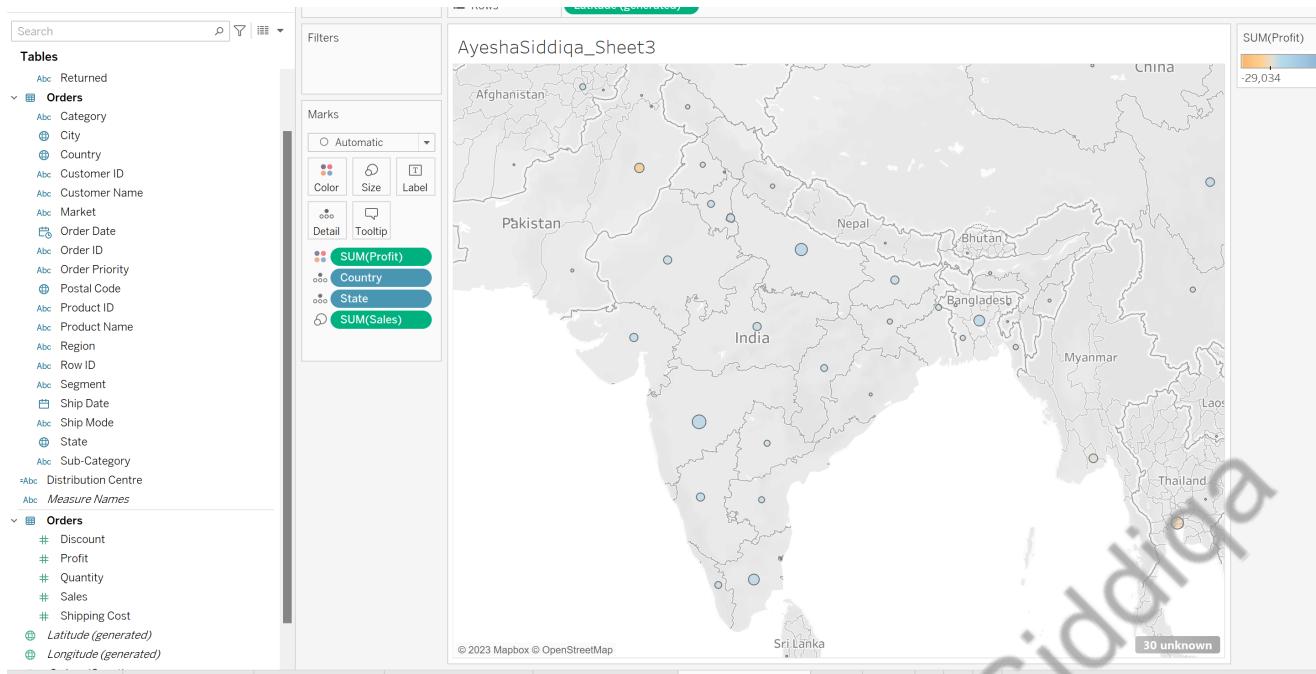
- Now Right click on the category and select Show Highlighter , when we take a look at the technology and office supplies we see that during the fall they had a good profit but the same wasn't observed with the furniture. Let's investigate this a little bit more to find out if this happening across all stores.



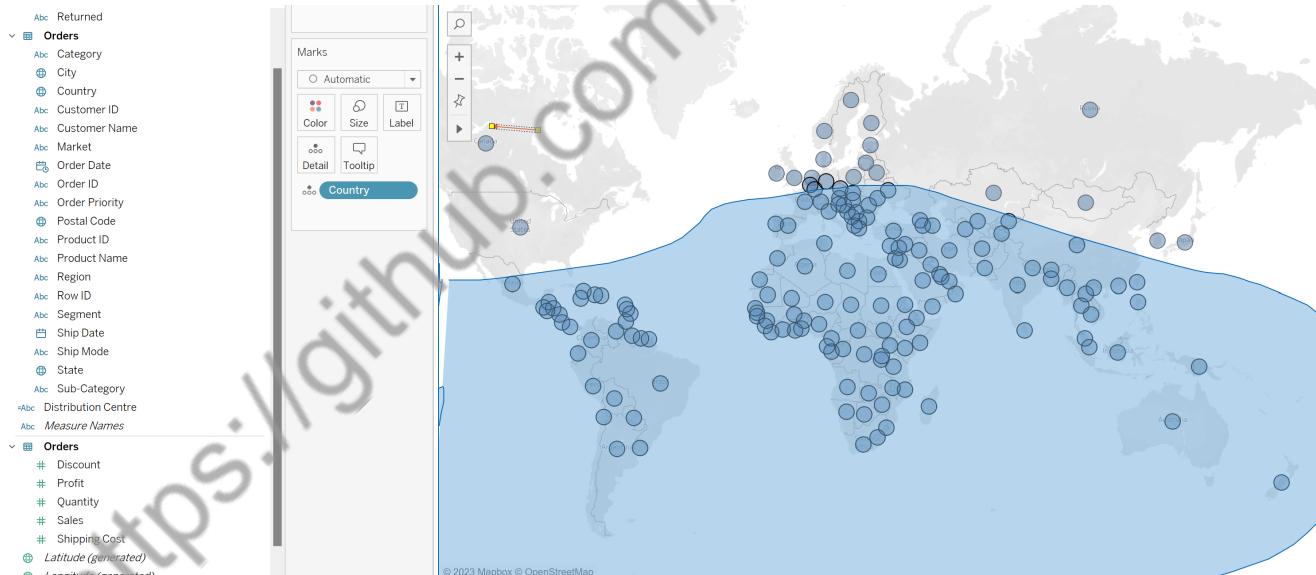
## Step7: Investigating Profits

- Now we know that profits for furniture are not as good and these may be varying regionally but we don't necessarily know the best way to view the data. In this case, we have the option called *Show Me* that has a list of common chart types that can help in chart analyses.
- By making a list of selections we achieve the below view

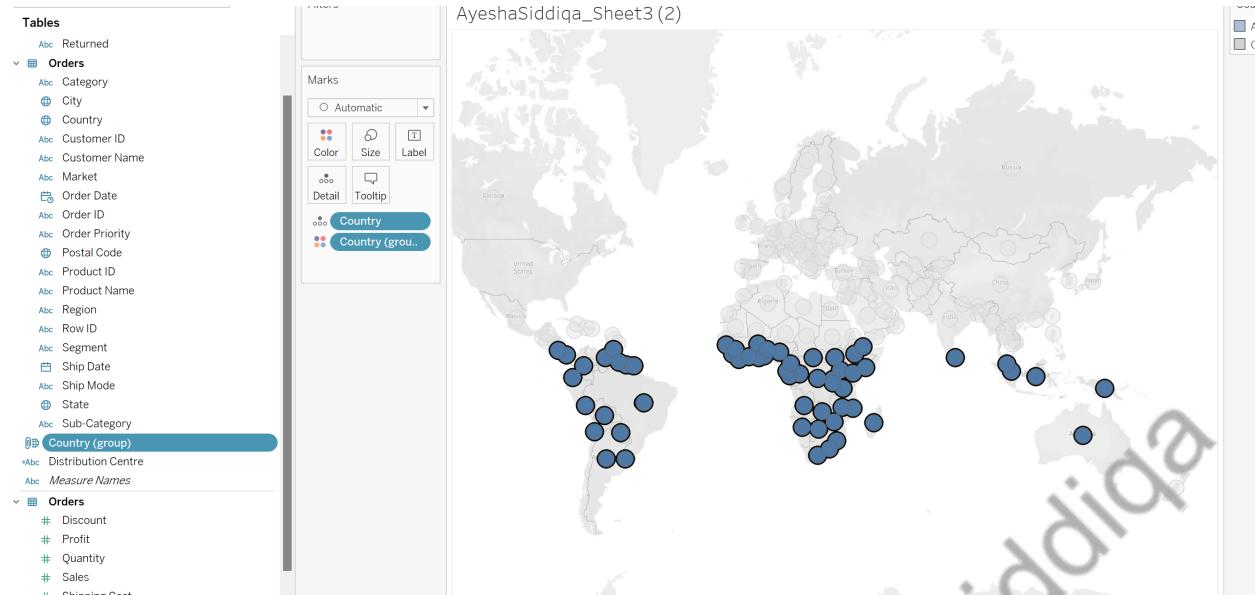




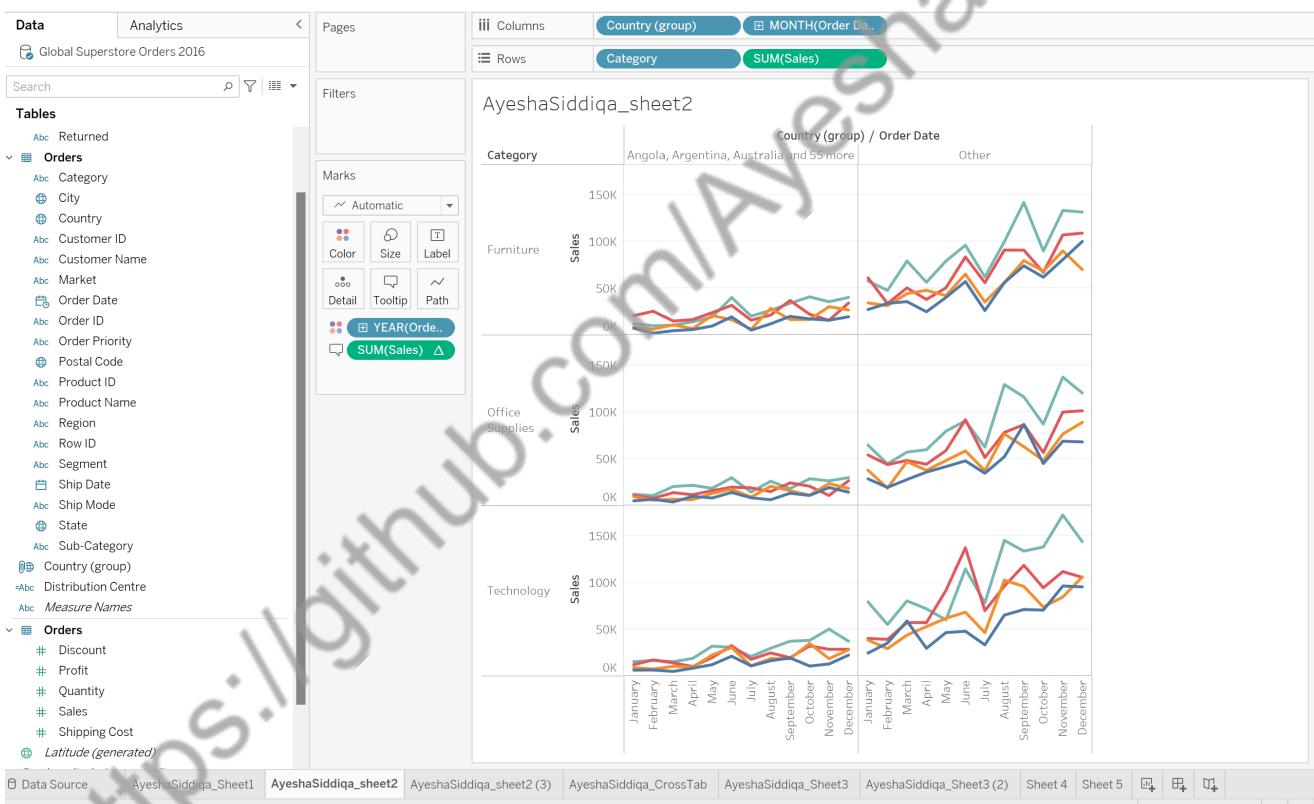
- Now the company experience a dip in sales in July , could this be because of action of hours driven from head quarters or is that a seasonal effect?!
- We can find out by breaking up the sales by hemisphere but we don't have that field in the data however this custom territory can be created directly in the map.
- Now form a duplicate of this view and strip out everything but the country and use the lasso tool to roughly select the southern hemisphere as demonstrated below



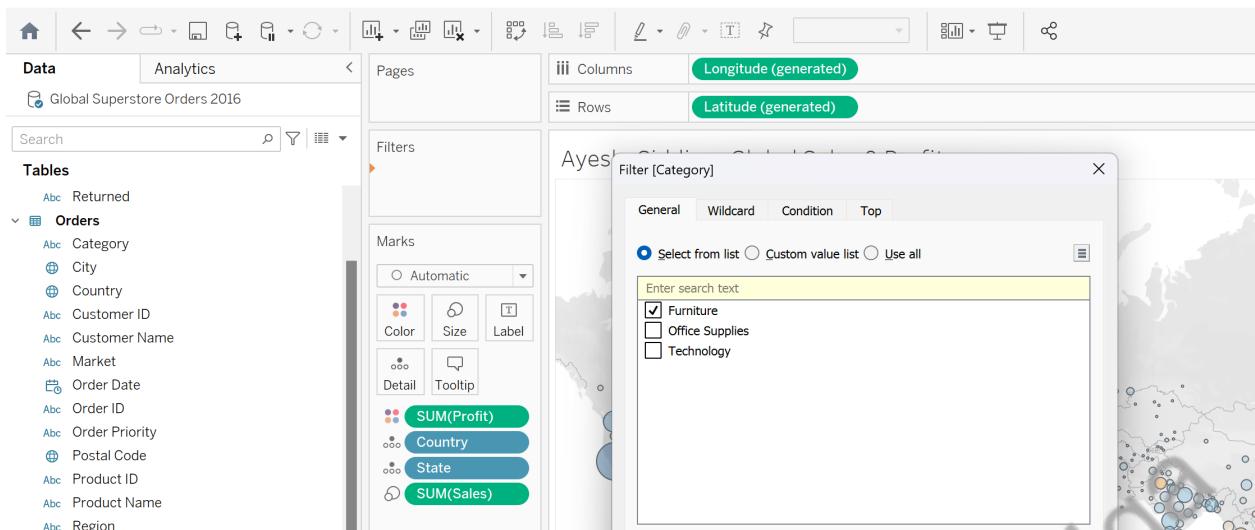
- We obtain something like this, notice we have a new country group in the data pane.



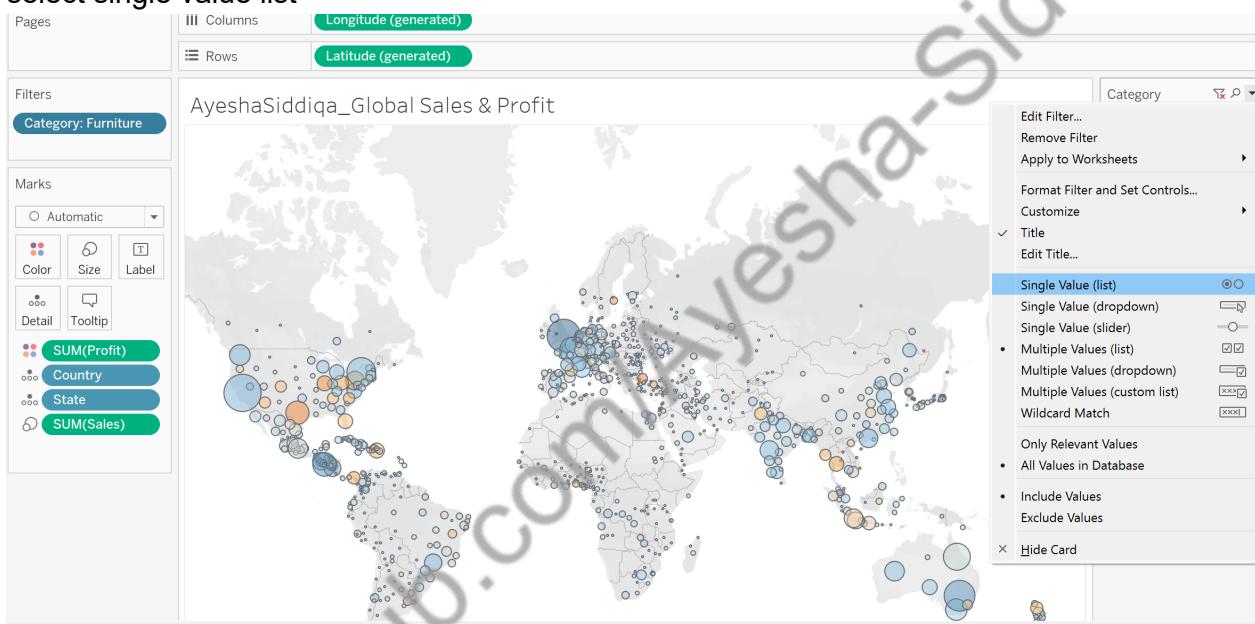
- Now we have the seasonality chart , let's add this group to that chart to understand what the sales in southern hemisphere looked like



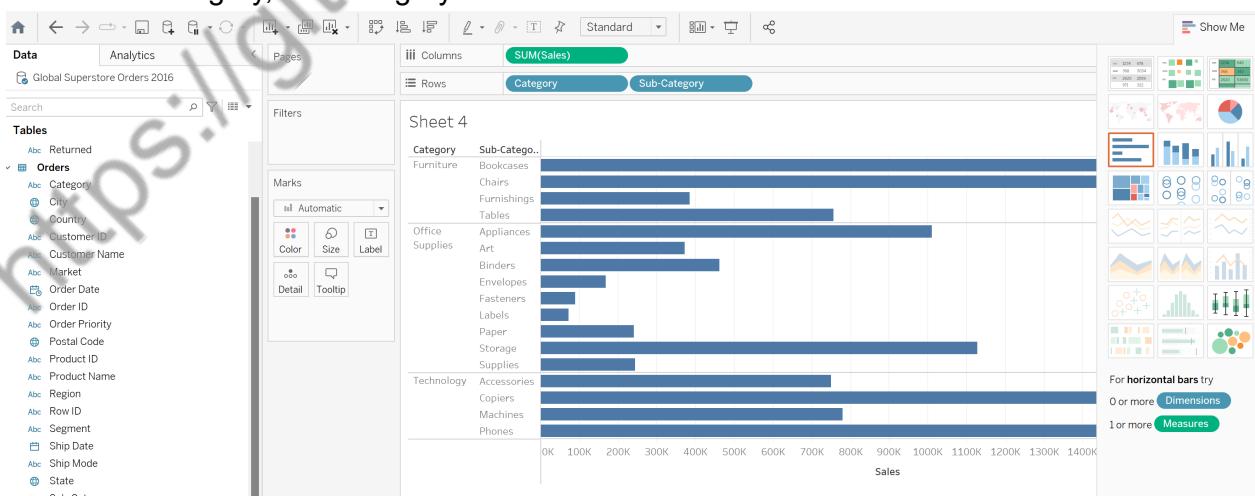
- Now let's head back to our main map , and drop category to the Filters pane and select furniture



- To make this interactive , right click on filter and select show filter
- select single value list



- Now to further investigate on what kind of furniture are doing poorly, we create a new sheet and select category, sub category and sales



- We could create hierarchies by dropping sub categories and creating a hierarchy.

## Data

## Analytics

Global Superstore Orders 2016

Search



## Tables

Abc Customer ID

Abc Customer Name

Abc Market

Order Date

Abc Order ID

Abc Order Priority

Postal Code

Abc Product ID

Abc Region

Abc Row ID

Abc Segment

Ship Date

Abc Ship Mode

State

Country (group)

=Abc Distribution Centre

Products

Abc Category

Abc Sub-Category

Abc Product Name

Abc Measure Names

Orders

# Discount

# Profit

# Quantity

# Sales

Pages

Filters

Marks

Automa

Color

6

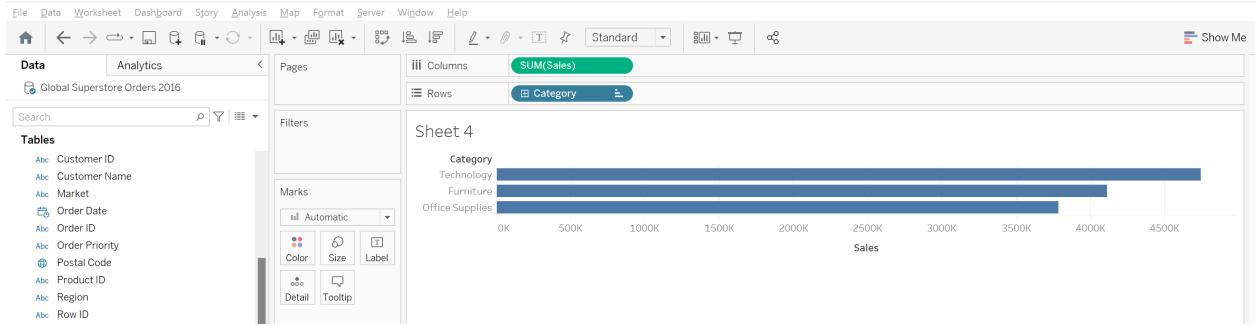
Detail

Siz

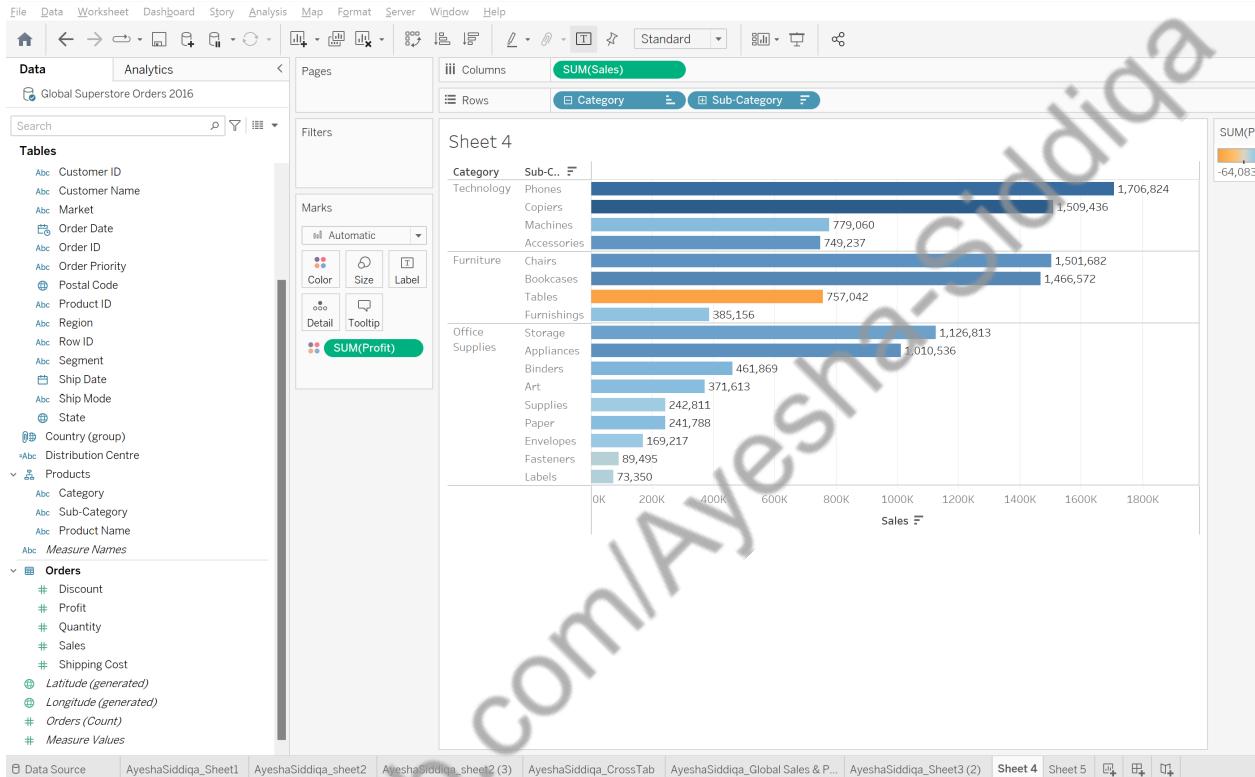
Too

Too

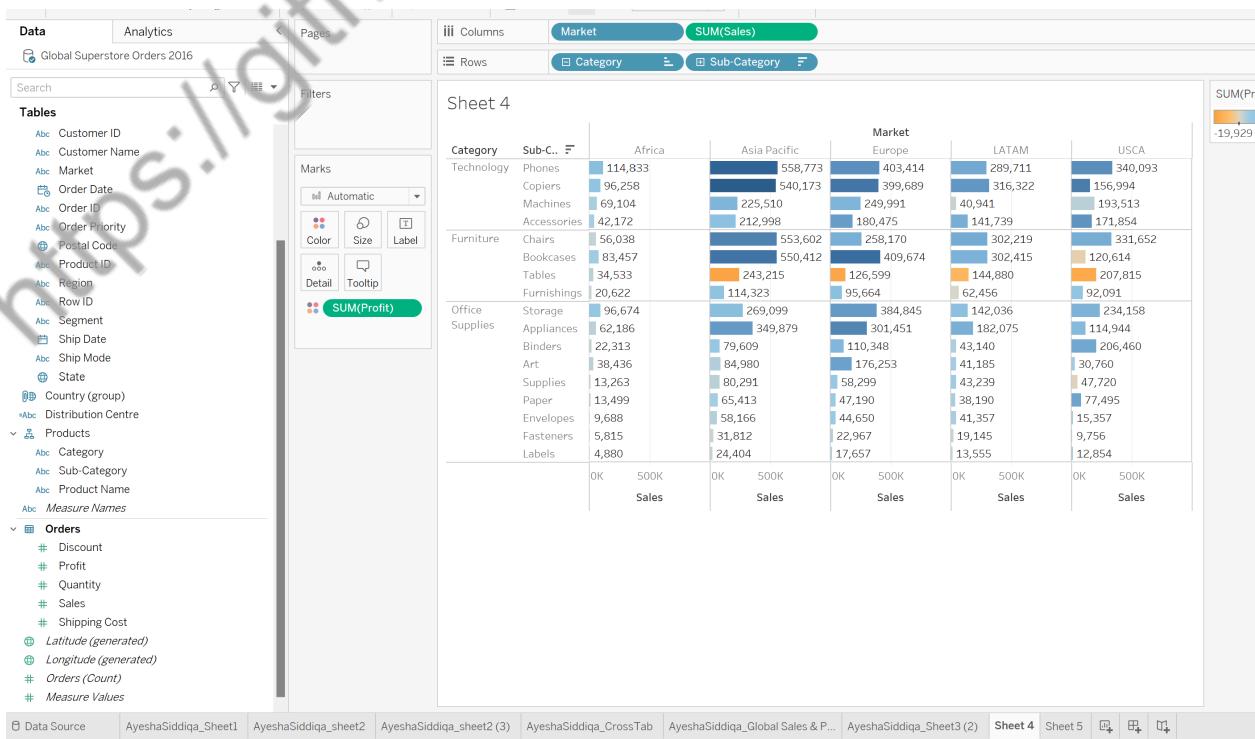
- We sort the categories and notice that technology has the most sales.



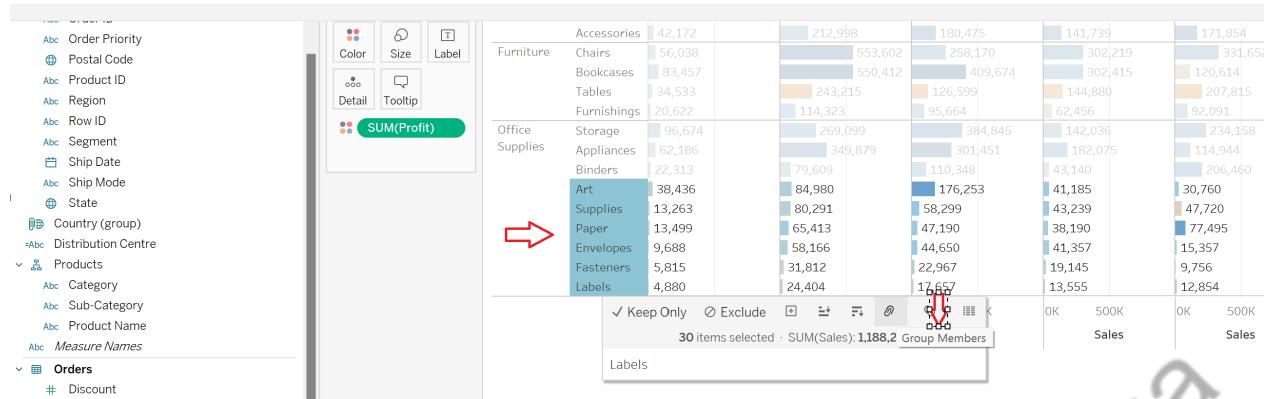
- Now we place profit on color to get the below view



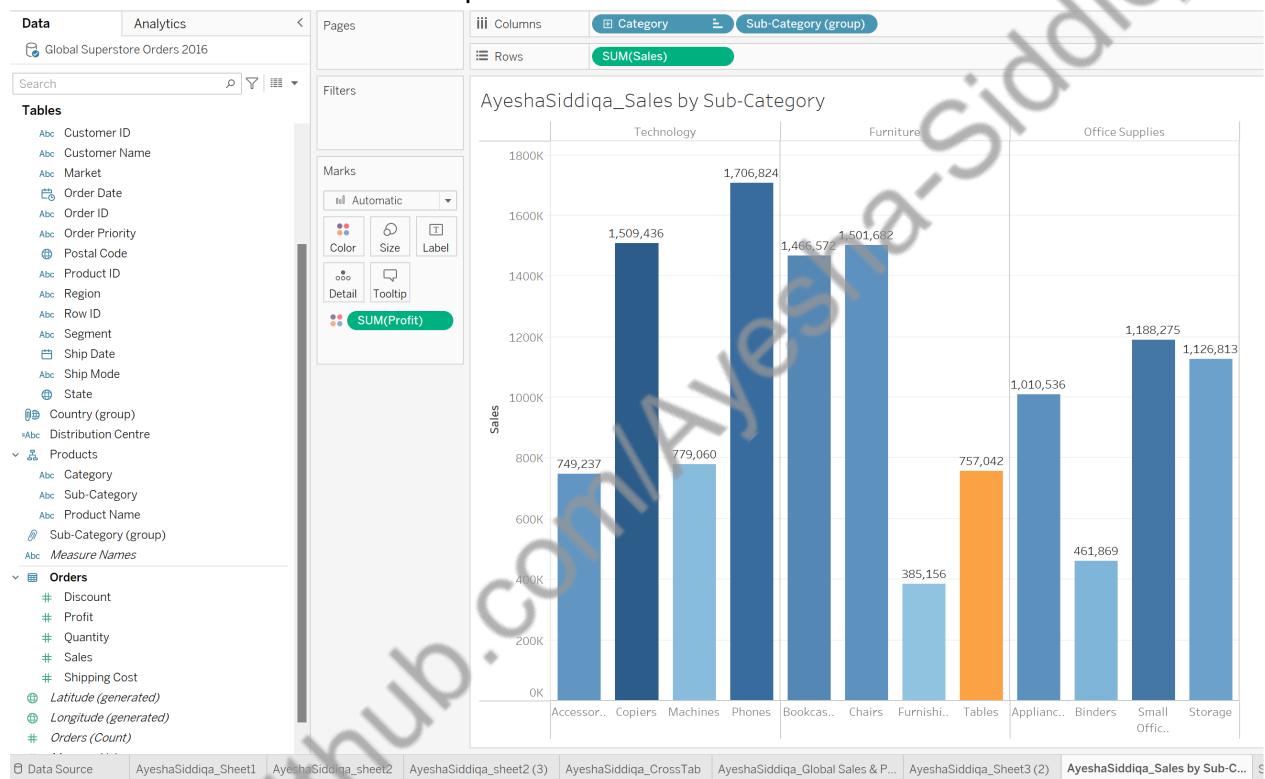
- From the above, it's quite evident that the Tables are doing bad from a profitability perspective.
- Let's understand if this is seen across all the markets



- Several markets have the same trend when it comes to furniture
- Let's group the office supplies that have small sales into - *small office supplies*

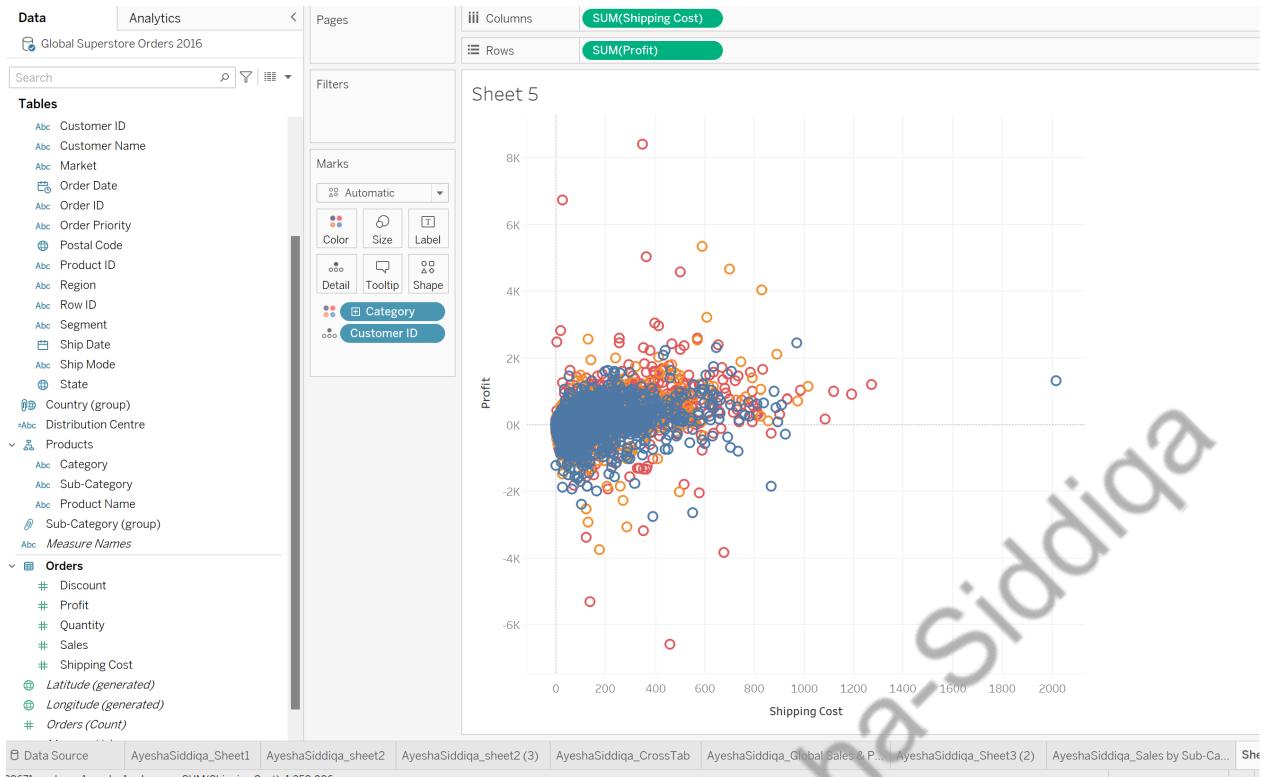


- Now let's remove Market and Swap axes

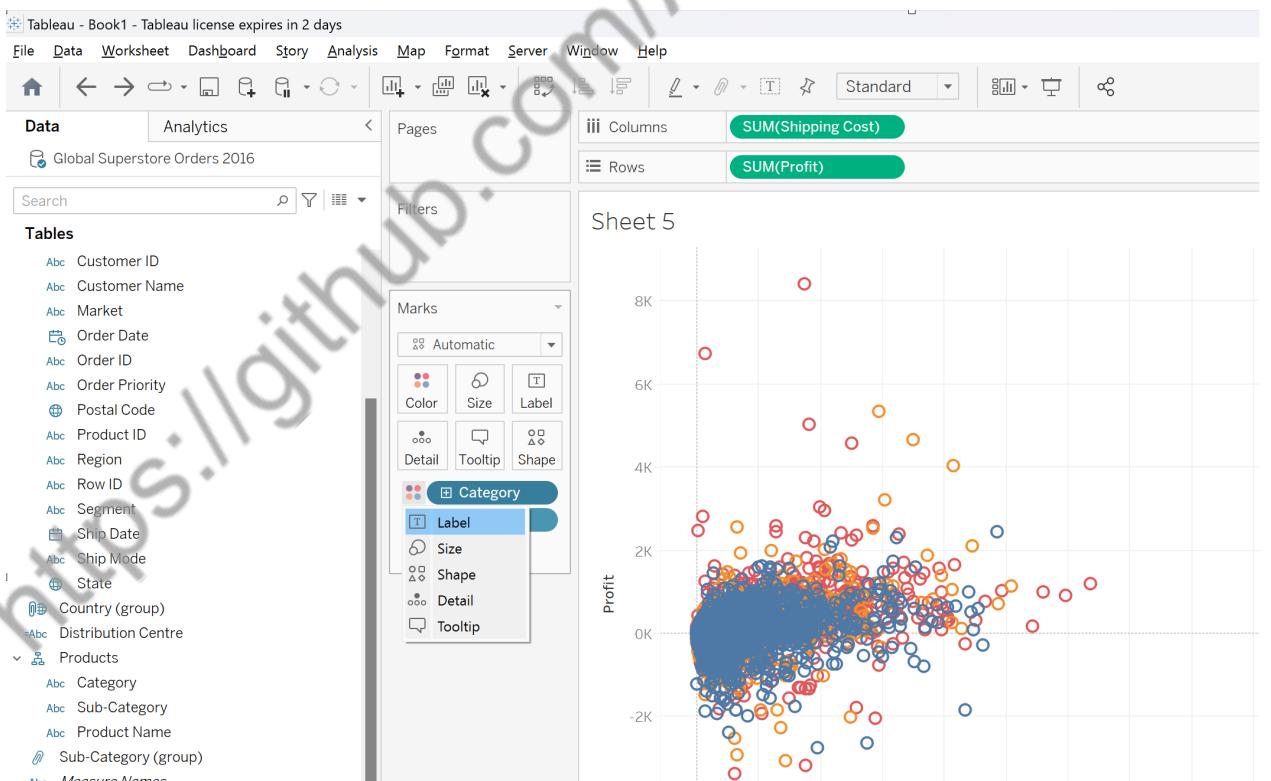


- Now let's create a new sheet to see if shipping costs is impacting on the profits.

- Let's take a look at the profit and shipping numbers

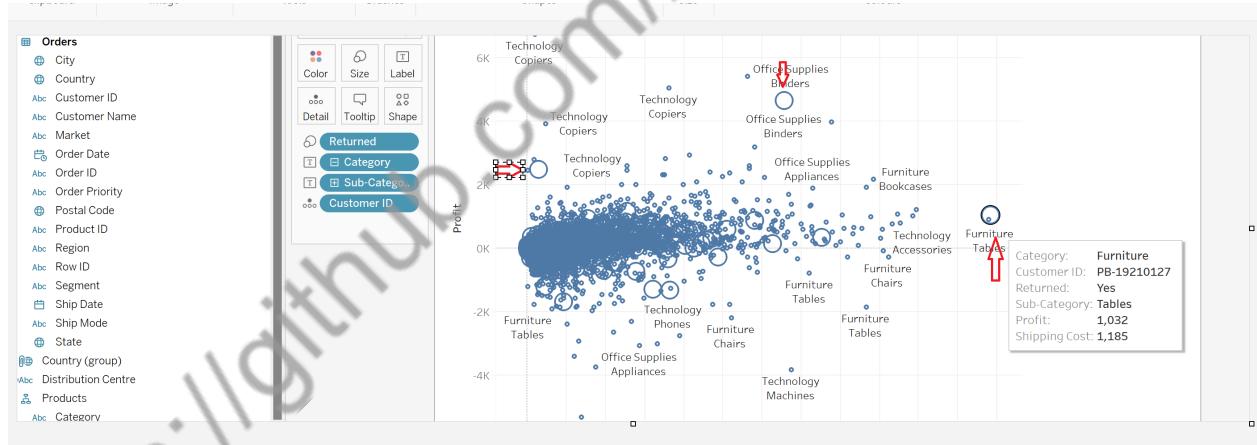


- The above chart represents shipping costs for each customer under each category for all transactions.
- Now select label from the category and bring sub category to the label to get something like this

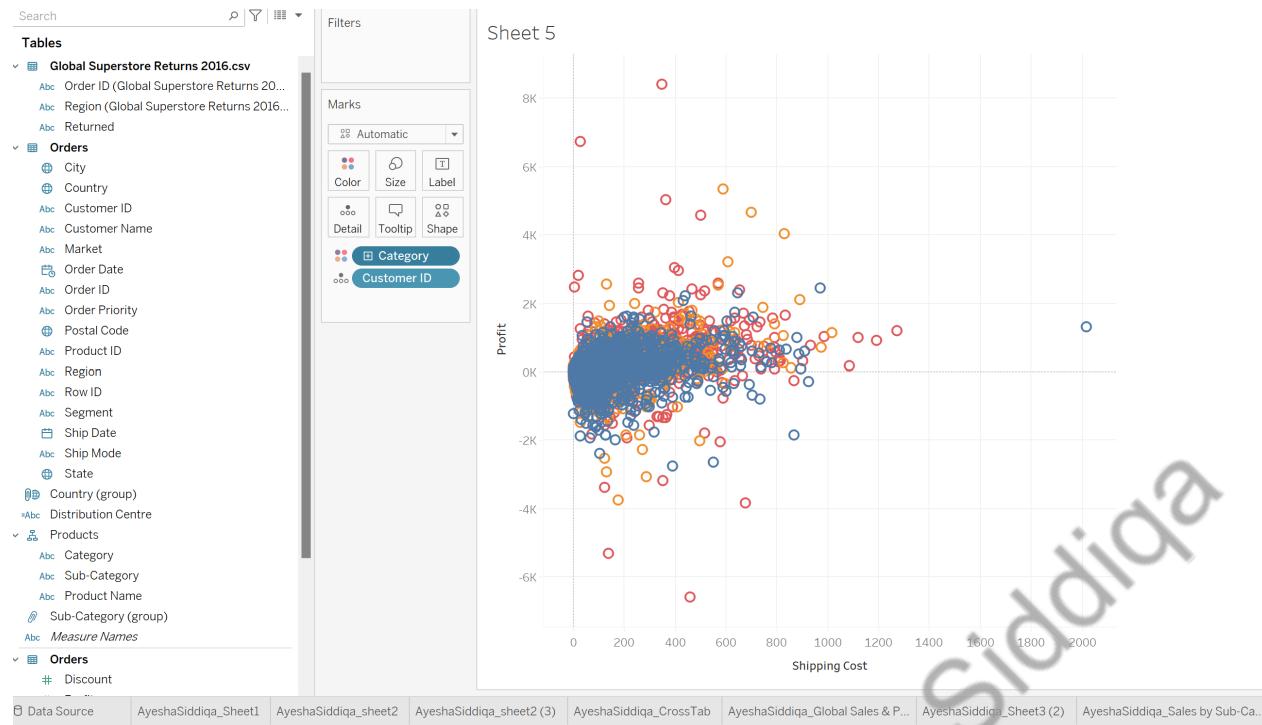




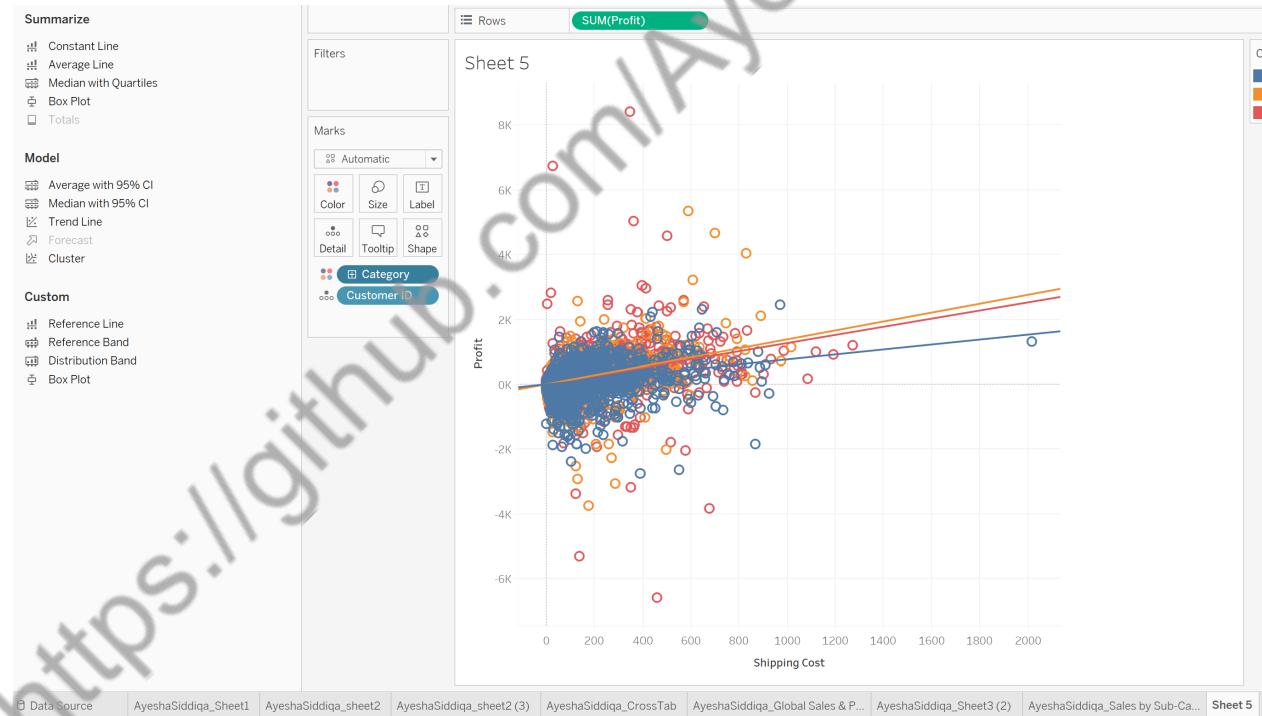
- From this we can see that significant amount of customers have low profits in various categories
- Let's find out if these low profit orders were returned, so drag the returned to size.
- It seems like the bigger orders represented by the bigger circles were all returned



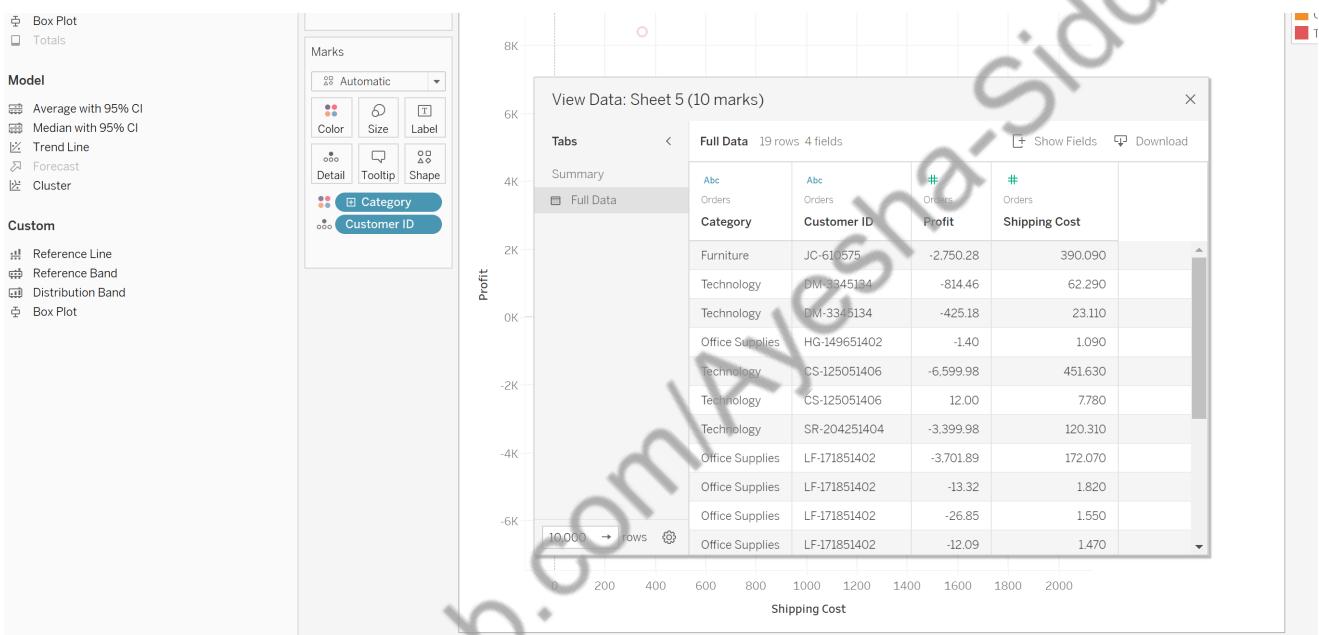
- Could there be a relationship between the shipping costs and profit
- We could take off the returned and sub category to understand this better and change it to color



- Now, let's add a trend line by going to the analytics pane, selecting trend line and dropping it on linear
- As shipping costs go up , profits go up less sharply in furniture, the R-squared is very less when we hover over it so we strip it aside



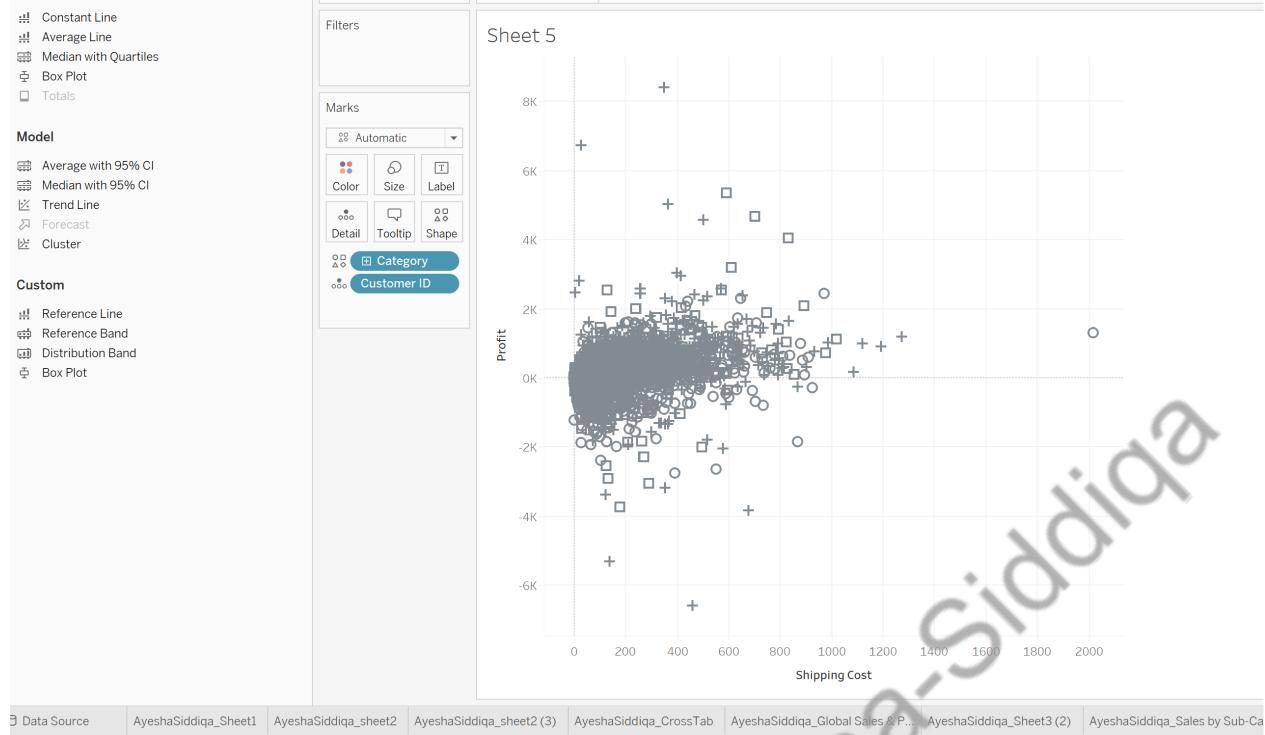
- We can quickly identify the customers contributing to low profits, we select the points to understanding the underlying data



Data Source AyeshaSiddiqा\_Sheet1 AyeshaSiddiqा\_sheet2 AyeshaSiddiqा\_sheet2 (3) AyeshaSiddiqा\_CrossTab AyeshaSiddiqा\_Global Sales & P... AyeshaSiddiqा\_Sheet3 (2) AyeshaSiddiqा\_Sales by Sub-Ca... Sheet 5

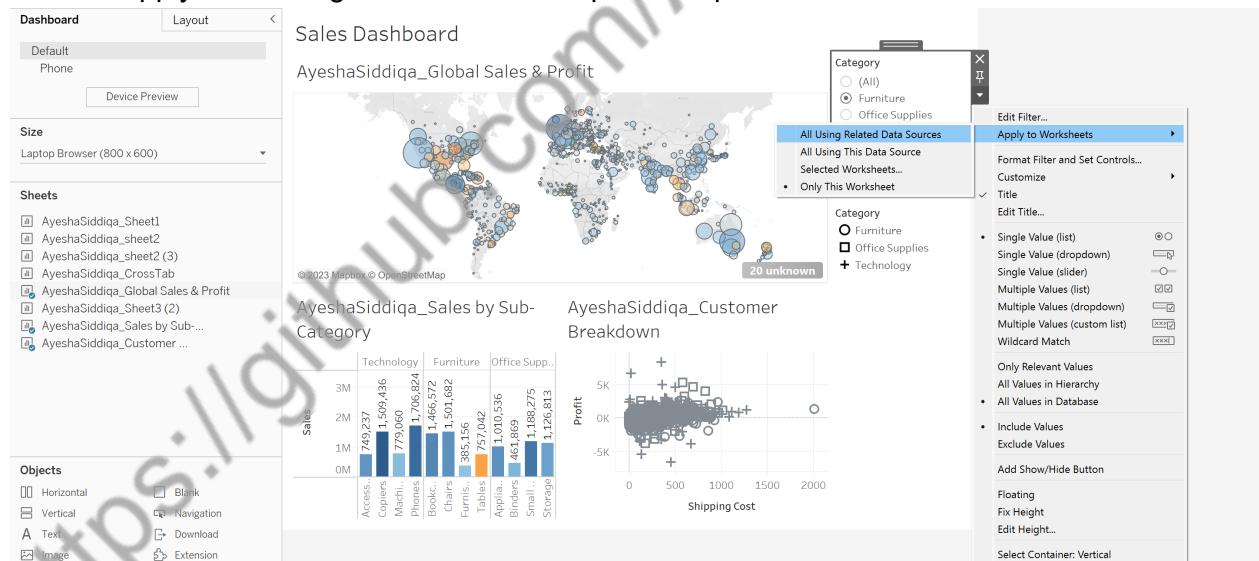
of 28671 marks 1 row by 1 column SUM(Shipping Cost): 3,277

- Now we change category to shape instead of color and change the color to grey

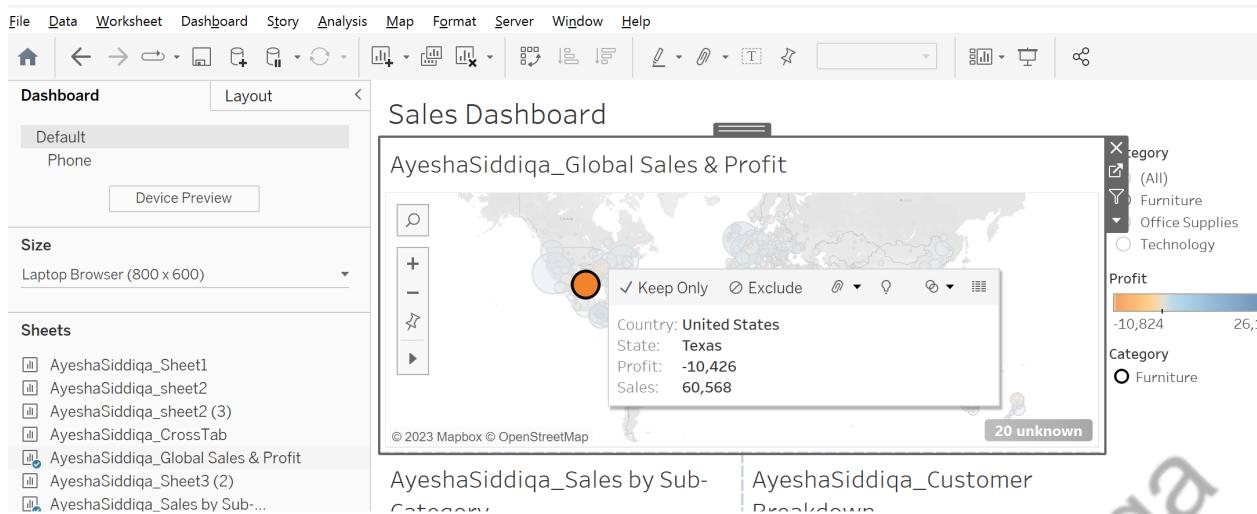


## Step8: Creating a Dashboard/Story

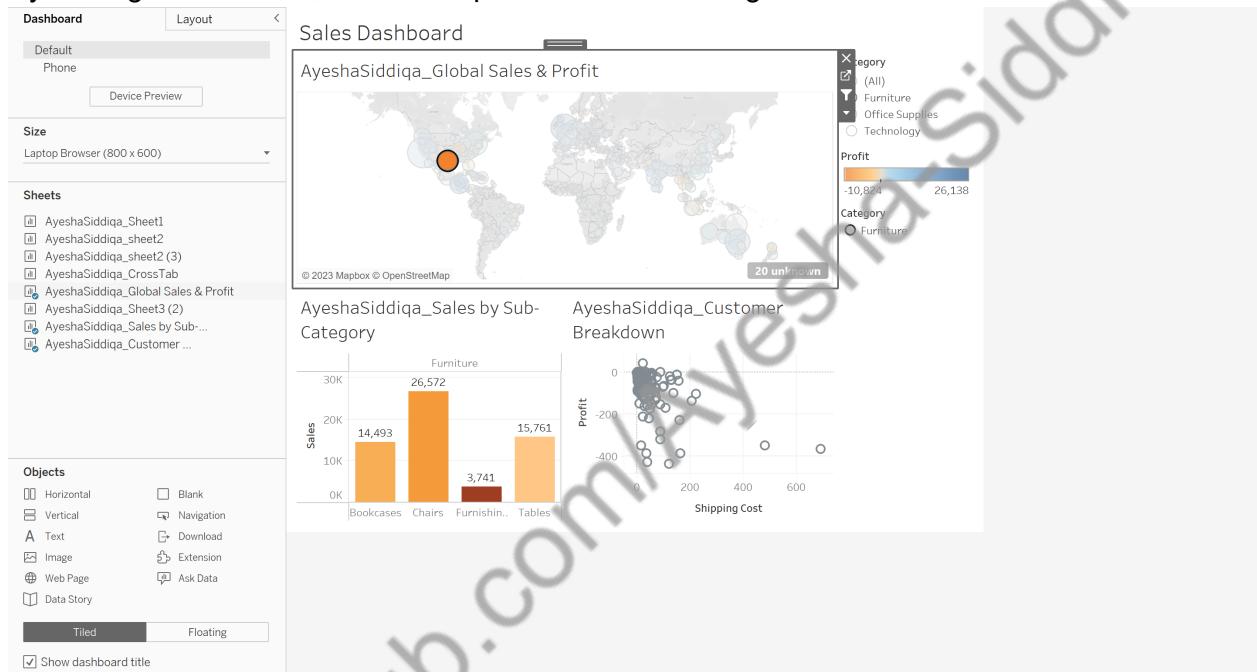
- Let's compile a dashboard by combining multiple individual views and call it *Sales Dashboard*
- Choose apply to all using this data source option to update all of our sheets



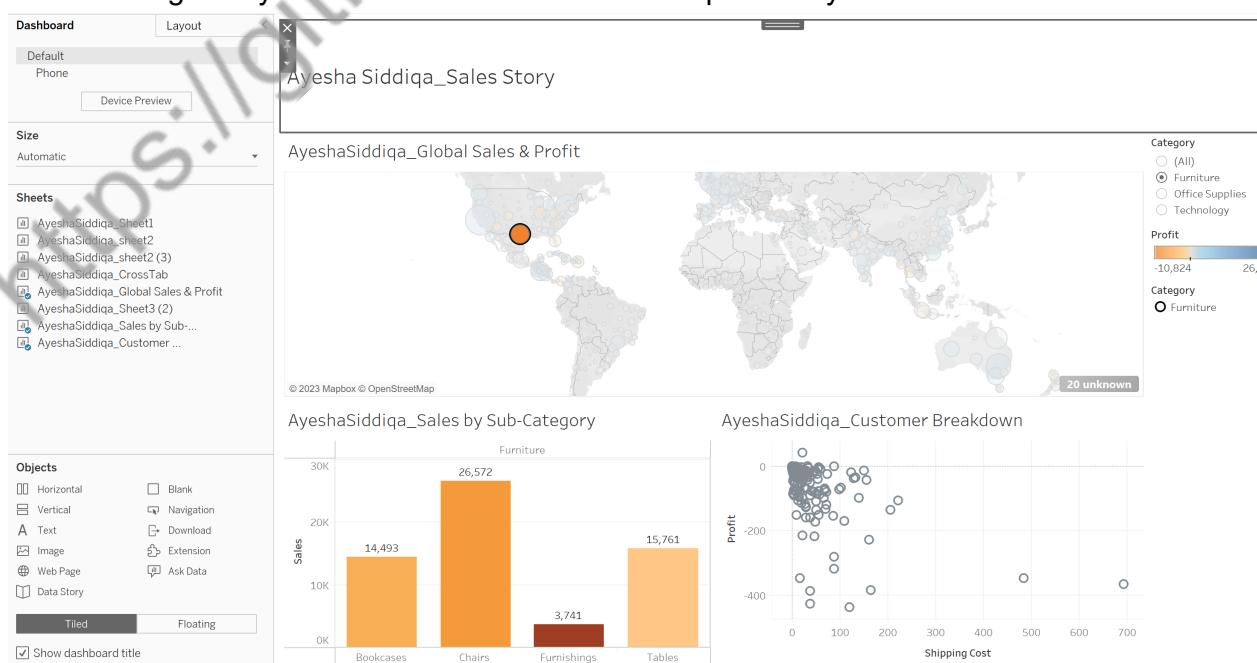
- To drill down to details on the map, eg the below one, and we would want to see what makes up this mark



- By turning the filter ON, all charts update with this setting.



- Now let's build a story by clicking on the story tab
- We can bring in any visualizations that's been made previously



- To publish select Publish from Server Menu

<https://github.com/Ayesha-Siddiga>