Sample Super Store Data Analytics Using IBM Cognos Analytics

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VIT BHOPAL.

Category: Data Analytics

Skills Required:
IBM Cloud

Project Description:

Introduction:

The superstore is a large supermarket, often selling furniture, clothing, electronics, and food. Supermarkets usually charge anywhere from 15 to 45 percent less than their smaller counterparts.

As a business manager, try to identify areas in which you could work to make more money. Perform Test Data Analysis.

Project Flow

- Users create multiple analytical graphs/charts/Visualizations.
- Using the Analytical Visualizations, build required Dashboard(s).
- Saving and visualizing the final dashboard in the IBM Cognos Analytics.

To accomplish this, we have to complete all the activities and tasks listed below:

1. IBM Cloud Account

2. Login to Cognos Analytics
3. Working with the Dataset
4. Understanding the Dataset
5. Loading the Dataset

Data Visualization Charts

Build the following visualizations

1. Build a Bar chart Showing the Regional Sales by Year
2. Build a Text Table showing the Regional Sales by Year and Category
3. Build a Line Chart showing the Sales and Profit Forecasts
4. Build the Sales vs Profit Scatter Plot
5. Build a Heat Map showing the Regional, Segment and Sub-Category wise Profits
6. Build a Histogram displaying the Shape of Distribution of Quantity among different Segments
7. Build a Tree Map by Sub-Category of Sales
8. Build a Word Cloud showing the Sales and Profits
9. Build a Geographical Map showing the Sales by States
10. Build a Regional Bump Chart showing the Sub-Category wise Profits

Working with the Dataset:

The Dataset used here is Sample-Superstore.xls .It consists of three sheets { Orders, People, Returns }

Loading The Dataset:

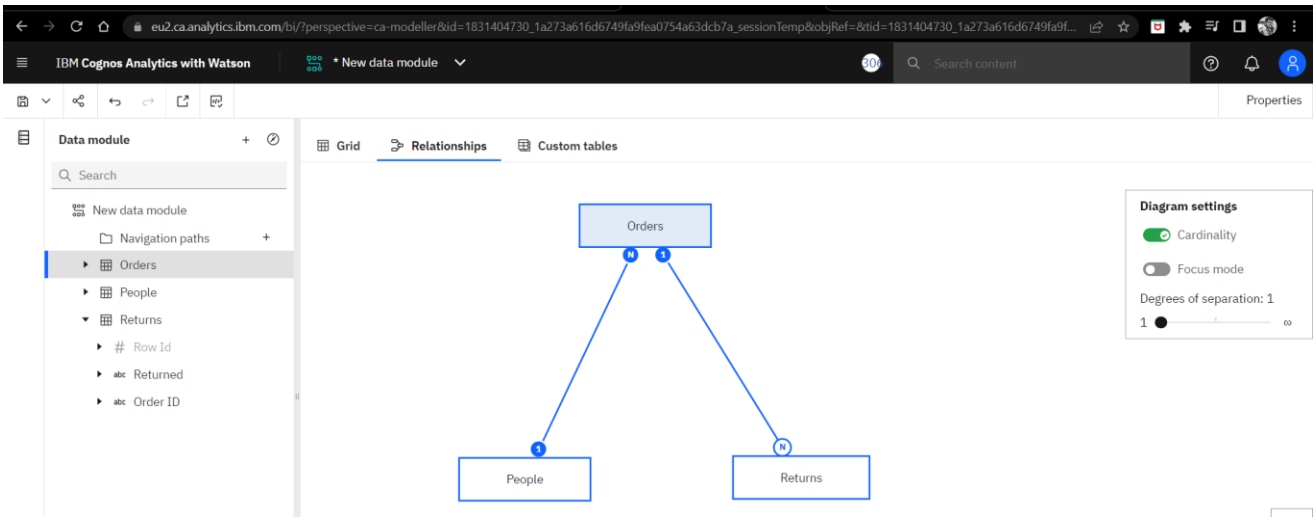
Before you can create and view your data, you must first connect the data to IBM Cognos. Cognos supports connectivity to a variety of data, which is stored in a variety of locations.

Data may be stored on your computer in a spreadsheet or text file, or in a large, related, or cube (multidimensional) database on your business server.

For us, we will be using a spreadsheet or text file to do our analysis. We need to load all three tables - {Orders, People, Returns}

Prepare The Datasets:

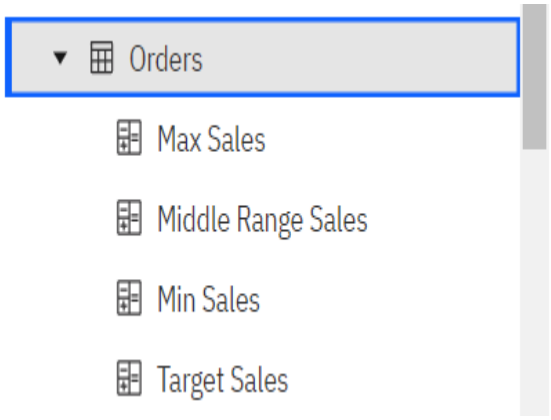
Once we load the data, we need to join the tables



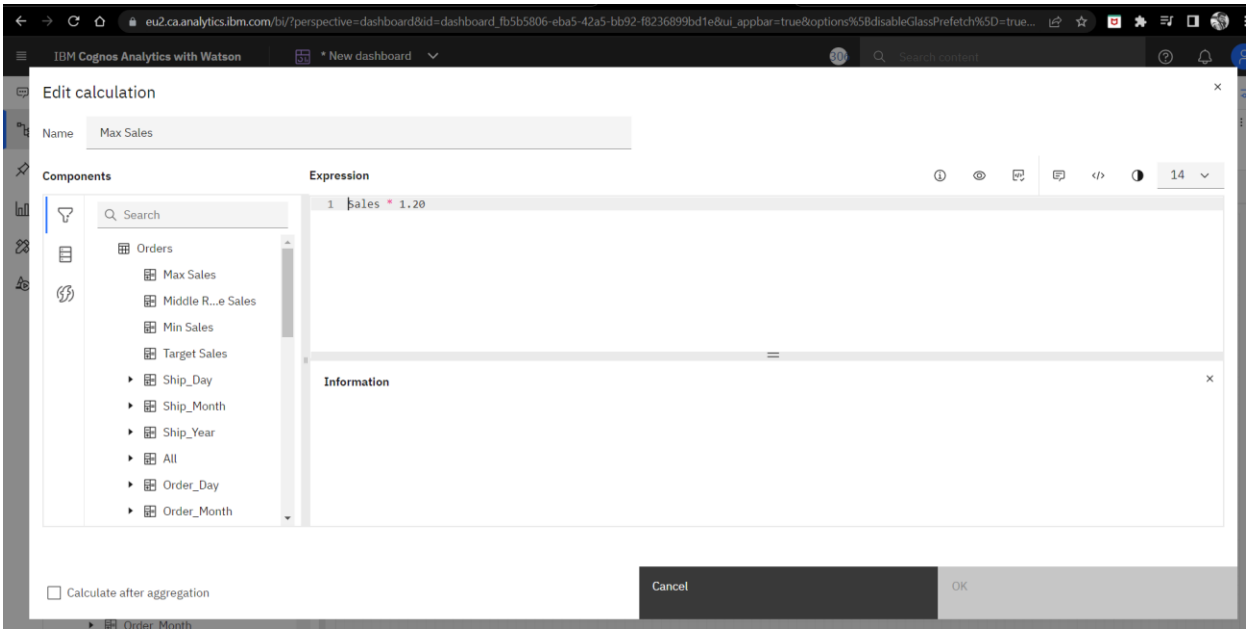
Calculations:

a. Prepare Calculations of Year, Month, Day fields for **Order Dates** and **Ship Dates** and the related **Navigation paths.**
b. Create a Navigation Path of Location as:
Location-- Region, Country / Region, State, City, Postal Code
c. Create Navigation path of Product as:
Product-- Category, Sub-Category, Manufacturer, Product Name
d. Create Few more Calculations:
Target Sales = 110 % Sales,
Min Sales = 90 % Sales,
Max Sales = 120% Sales,
Middle Range Sales = 95% Sales.

Calculations for Sales:



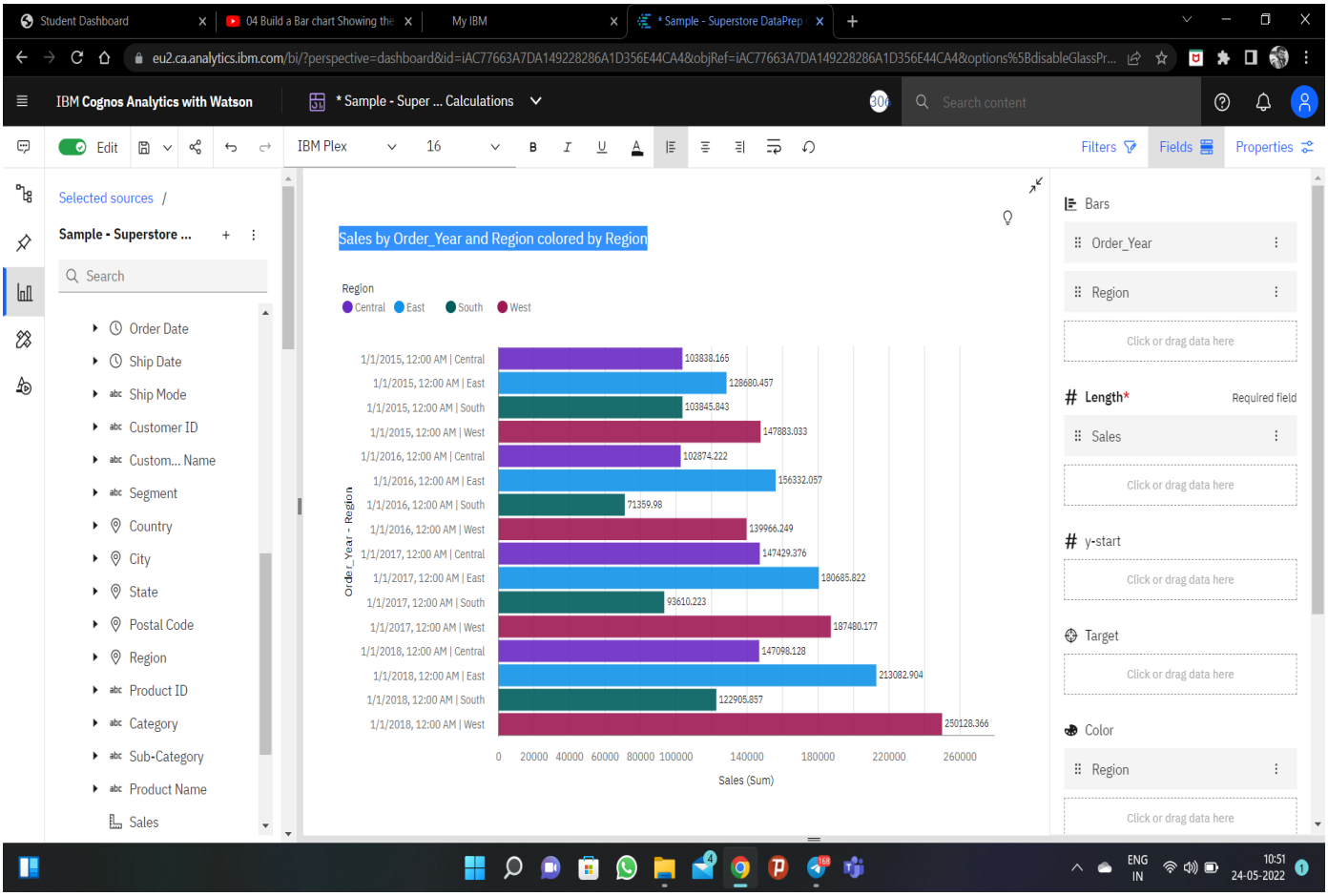
Calculations for Max Sales



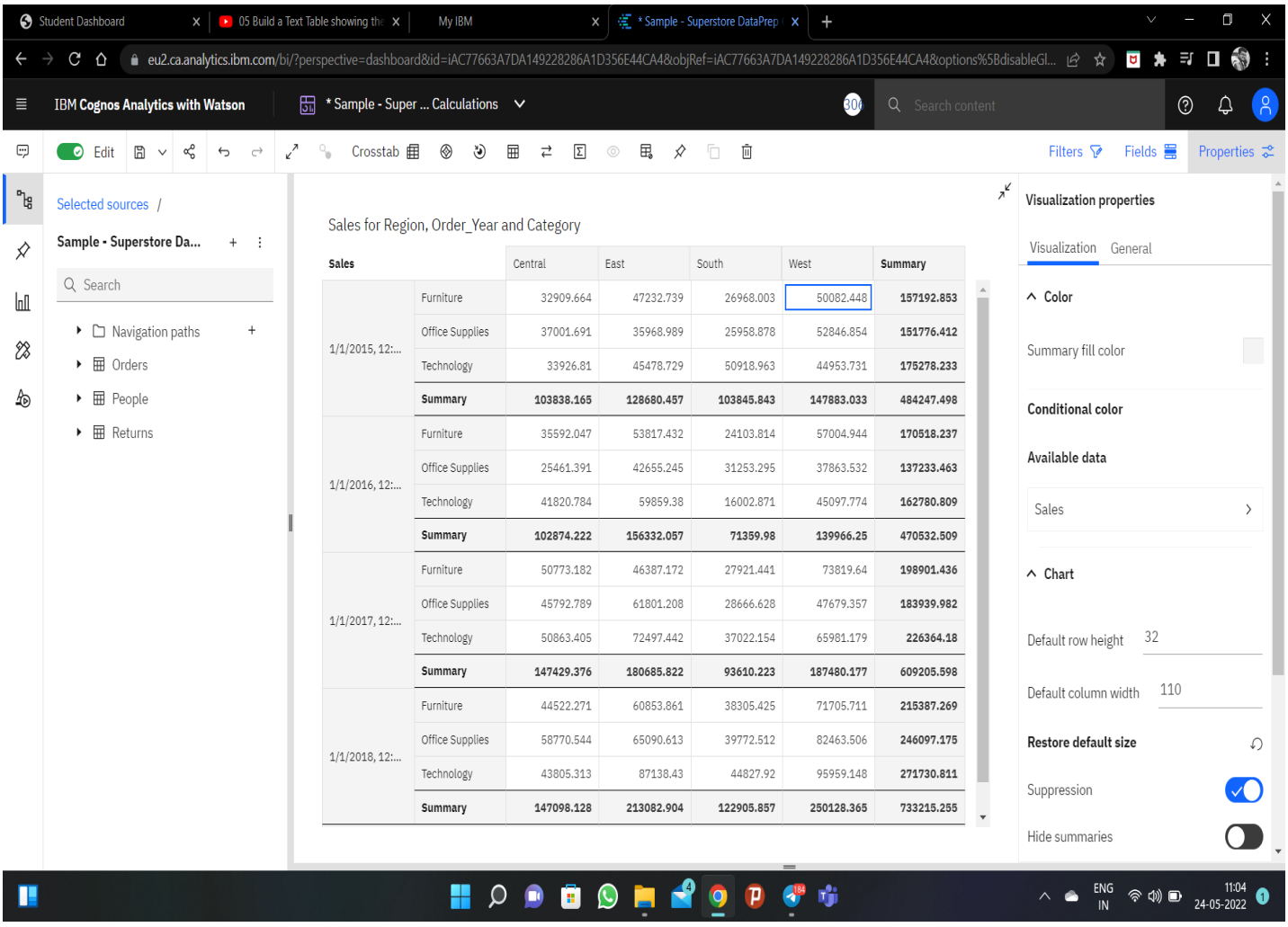
Data Visualization Charts

Using the given dataset, we plan to create various graphs and charts to highlight the insights and visualizations.

1) **Build A Bar Chart Showing the Regional Sales by Year**

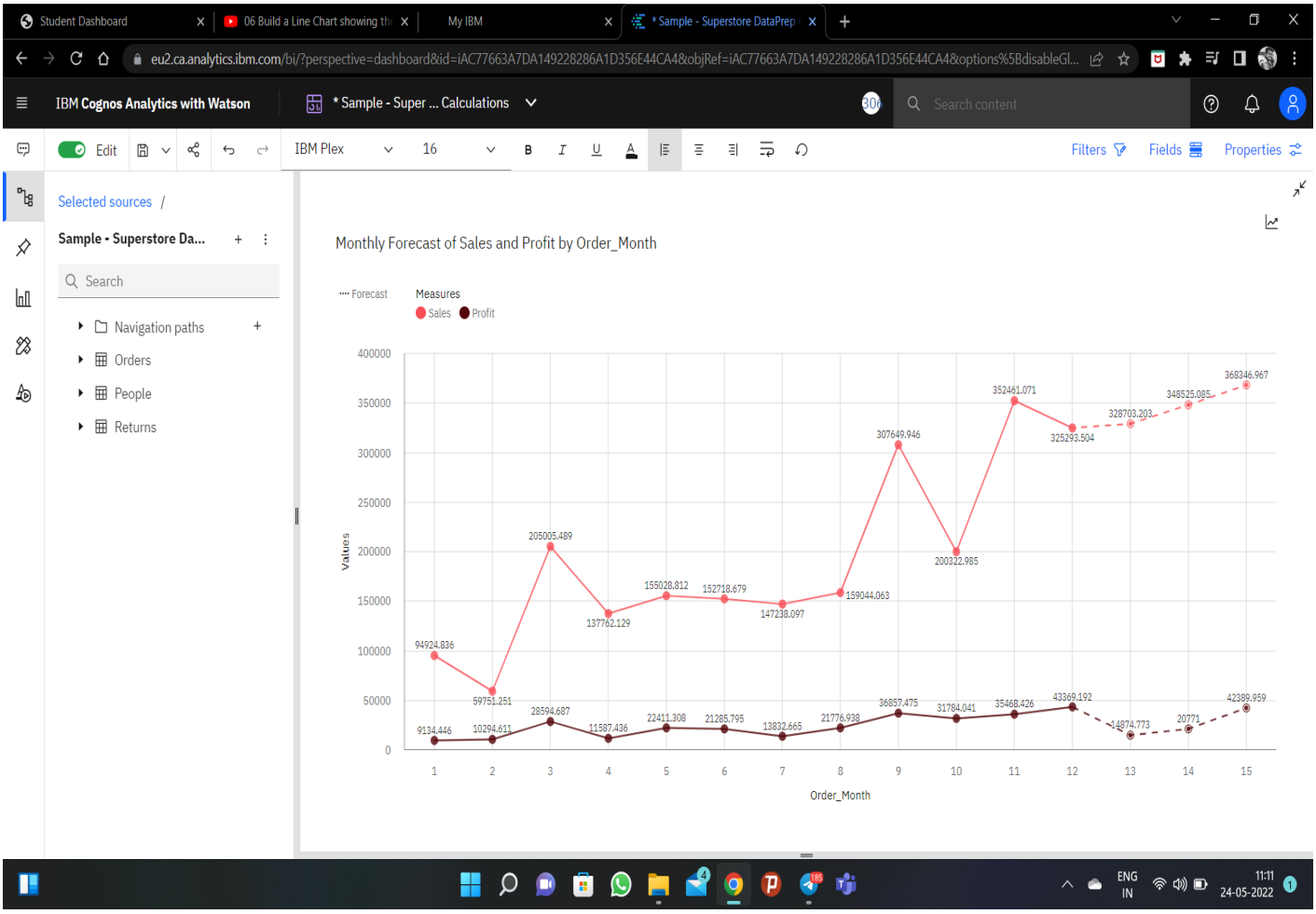


2) **Build A Text Table Showing the Regional Sales by Year and Category**

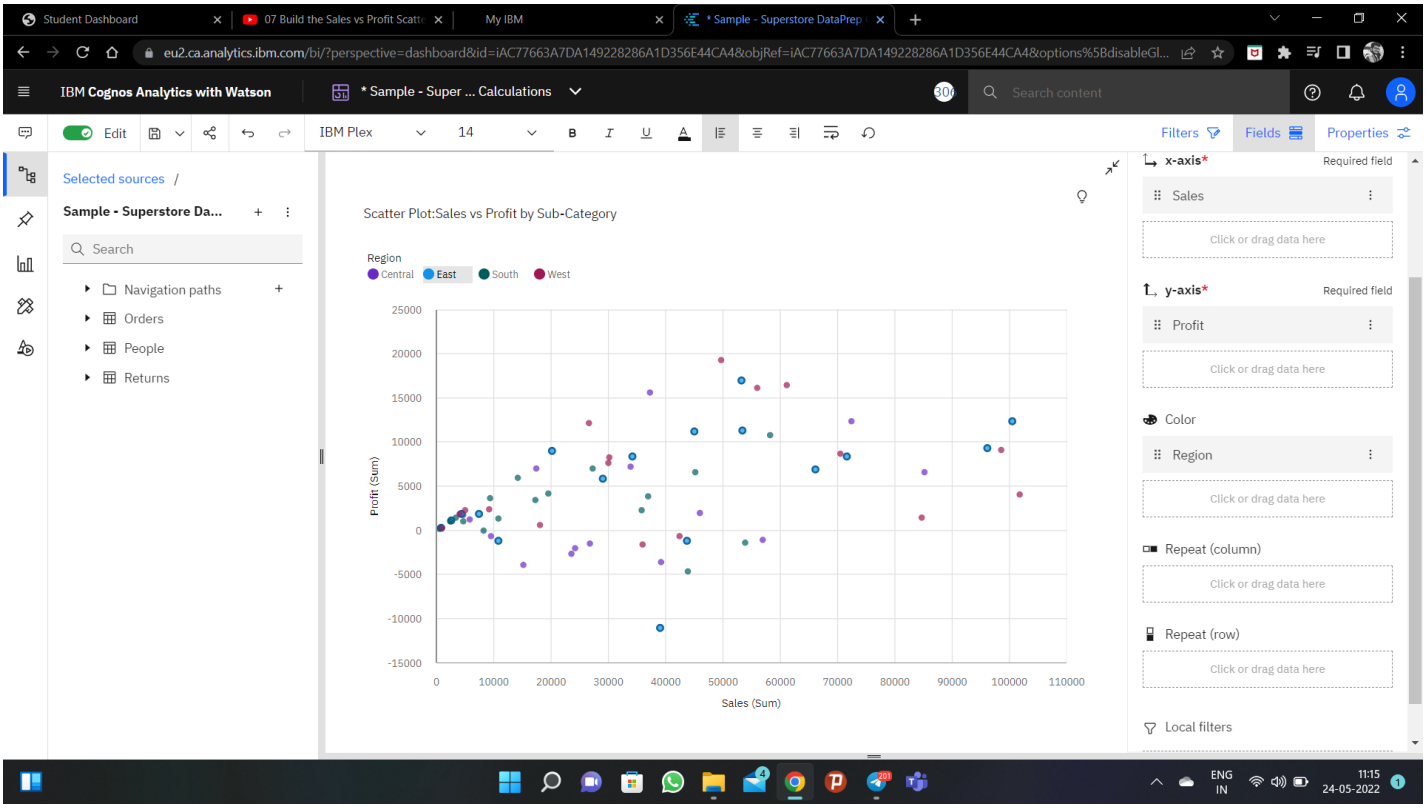


Sales		Central	East	South	West	Summary
1/1/2015, 12:...	Furniture	32909.664	47232.739	26968.003	50082.448	**157192.853**
	Office Supplies	37001.691	35968.989	25958.878	52846.854	**151776.412**
	Technology	33926.81	45478.729	50918.963	44953.731	**175278.233**
	Summary	**103838.165**	**128680.457**	**103845.843**	**147883.033**	**484247.498**
1/1/2016, 12:...	Furniture	35592.047	53817.432	24103.814	57004.944	**170518.237**
	Office Supplies	25461.391	42655.245	31253.295	37863.532	**137233.463**
	Technology	41820.784	59859.38	16002.871	45097.774	**162780.809**
	Summary	**102874.222**	**156332.057**	**71359.98**	**139966.25**	**470532.509**
1/1/2017, 12:...	Furniture	50773.182	46387.172	27921.441	73819.64	**198901.436**
	Office Supplies	45792.789	61801.208	28666.628	47679.357	**183939.982**
	Technology	50863.405	72497.442	37022.154	65981.179	**226364.18**
	Summary	**147429.376**	**180685.822**	**93610.223**	**187480.177**	**609205.598**
1/1/2018, 12:...	Furniture	44522.271	60853.861	38305.425	71705.711	**215387.269**
	Office Supplies	58770.544	65090.613	39772.512	82463.506	**246097.175**
	Technology	43805.313	87138.43	44827.92	95959.148	**271730.811**
	Summary	**147098.128**	**213082.904**	**122905.857**	**250128.365**	**733215.255**

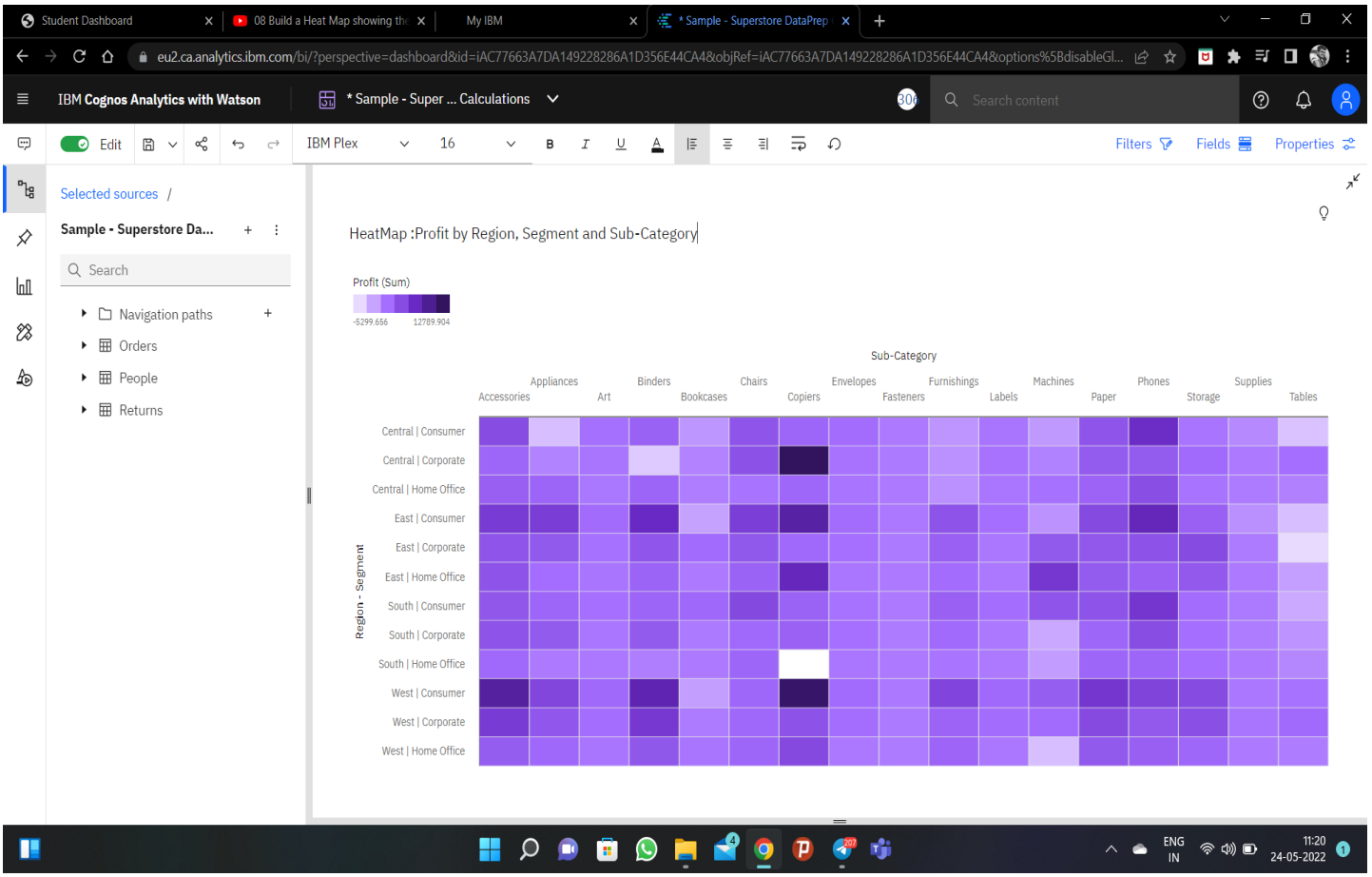
3) **Build A Line Chart Showing the Sales and Profit Forecasts**



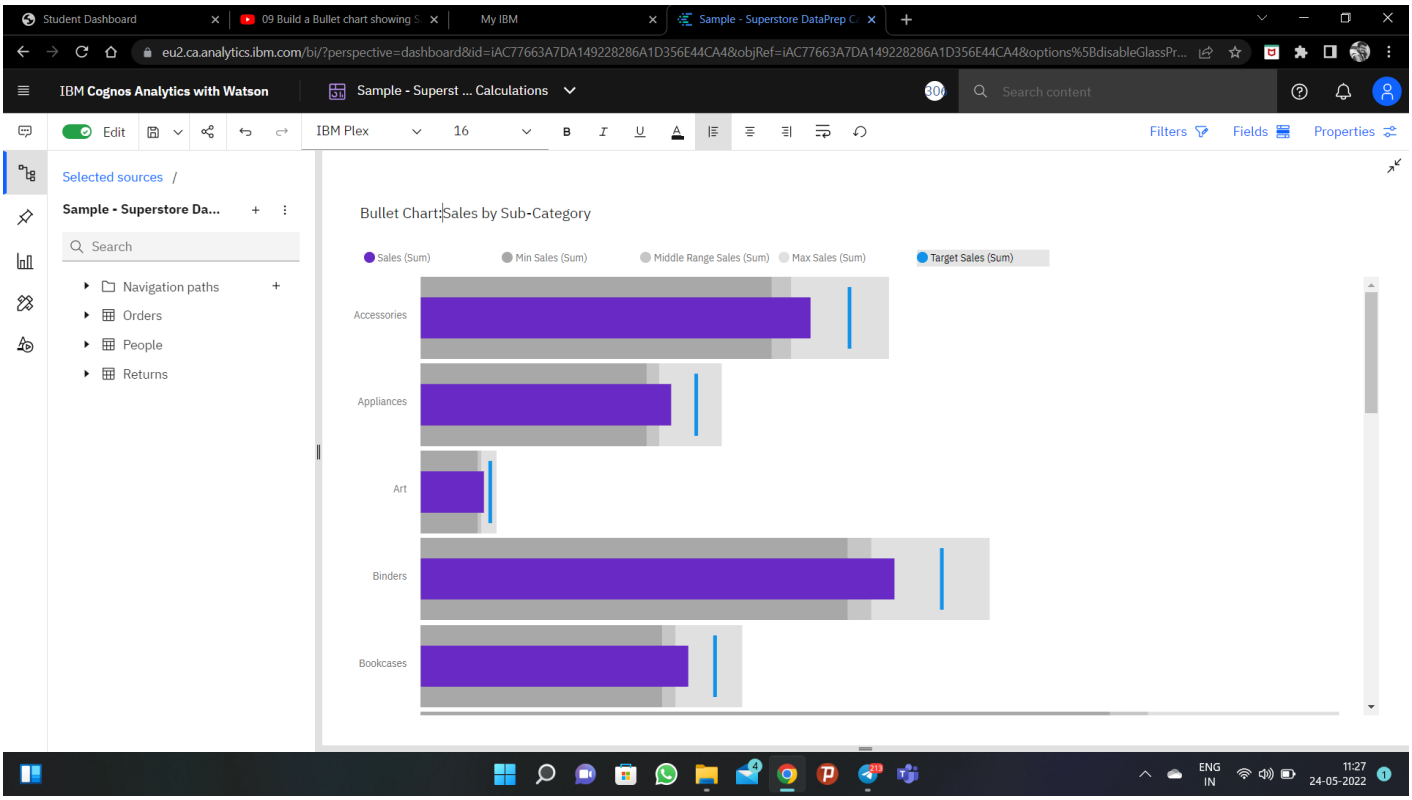
4) **Build The Sales Vs Profit Scatter Plot**



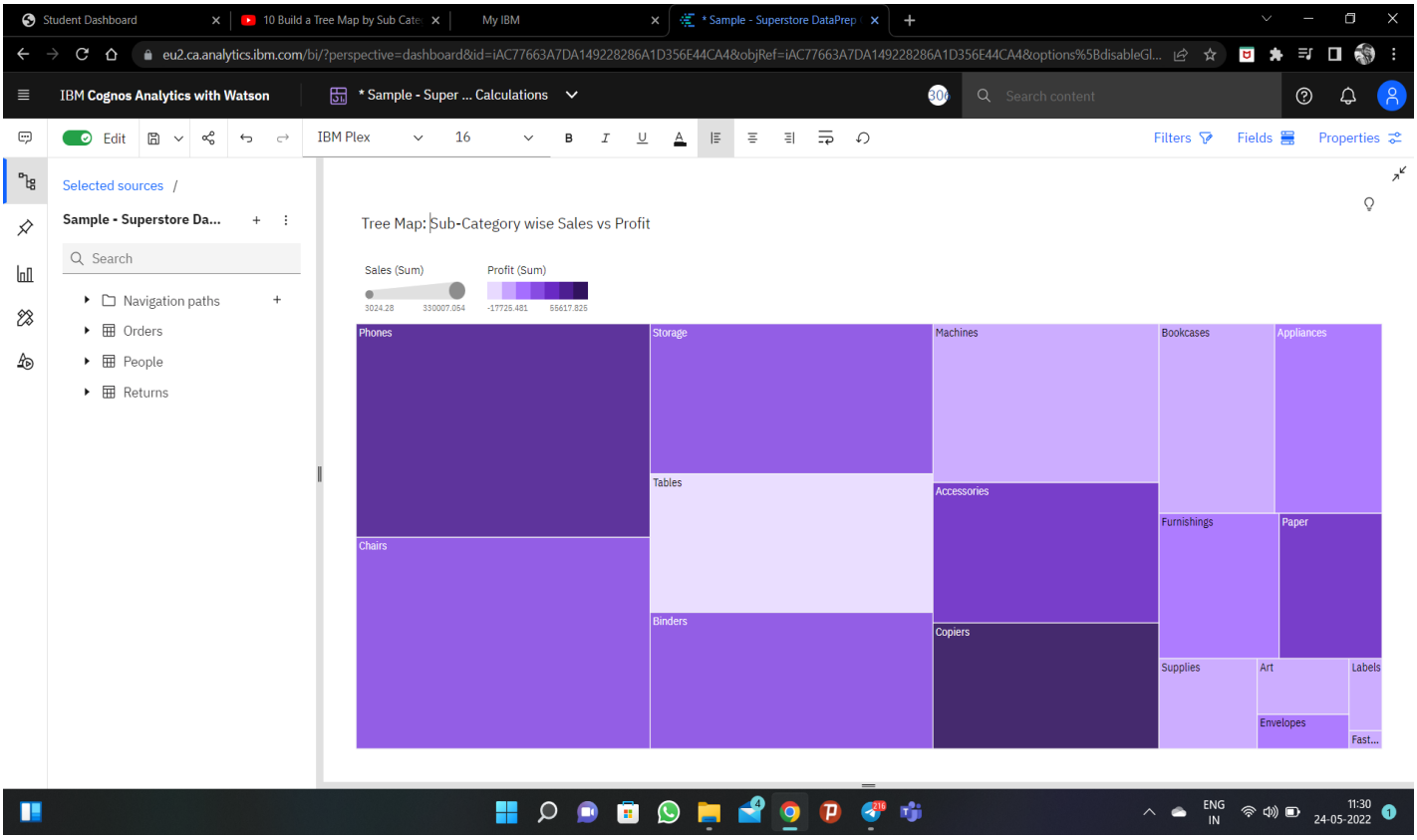
5) **Build A Heat Map Showing the Regional, Segment and Sub-Category Wise Profits**



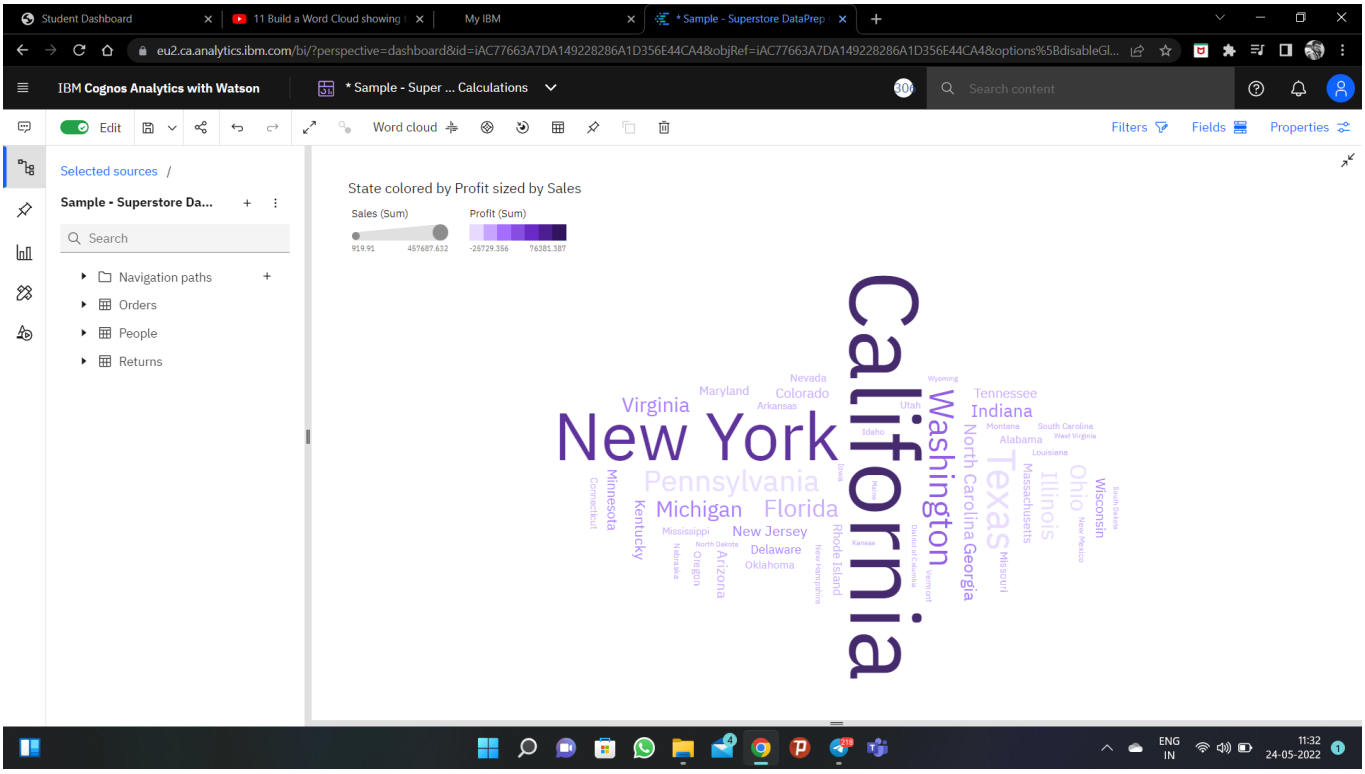
6) **Build A Bullet Chart Showing Sales Analytical Values Across Different Sub-Categories**



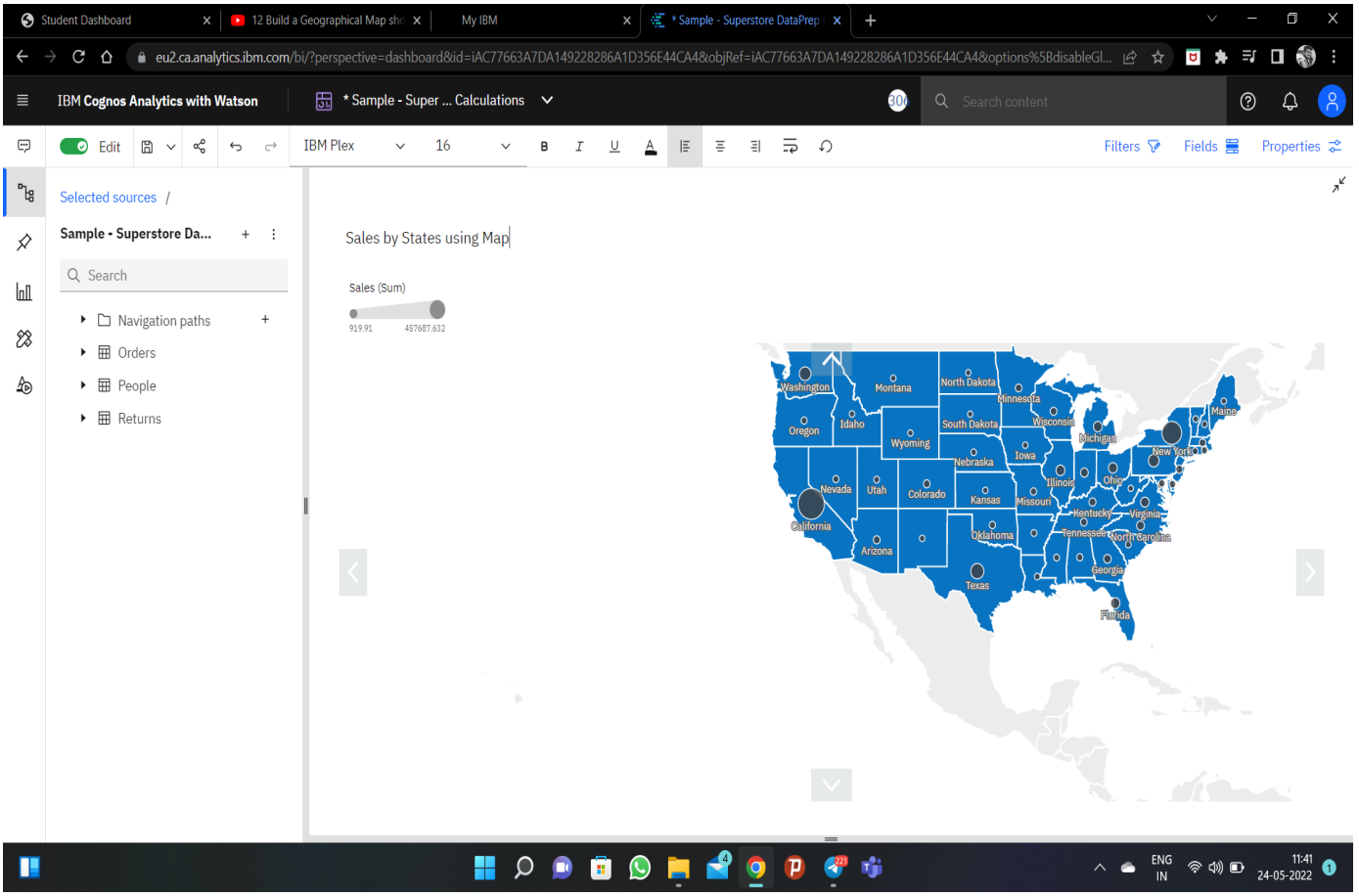
7) **Build A Tree Map by Sub-Category of Sales**



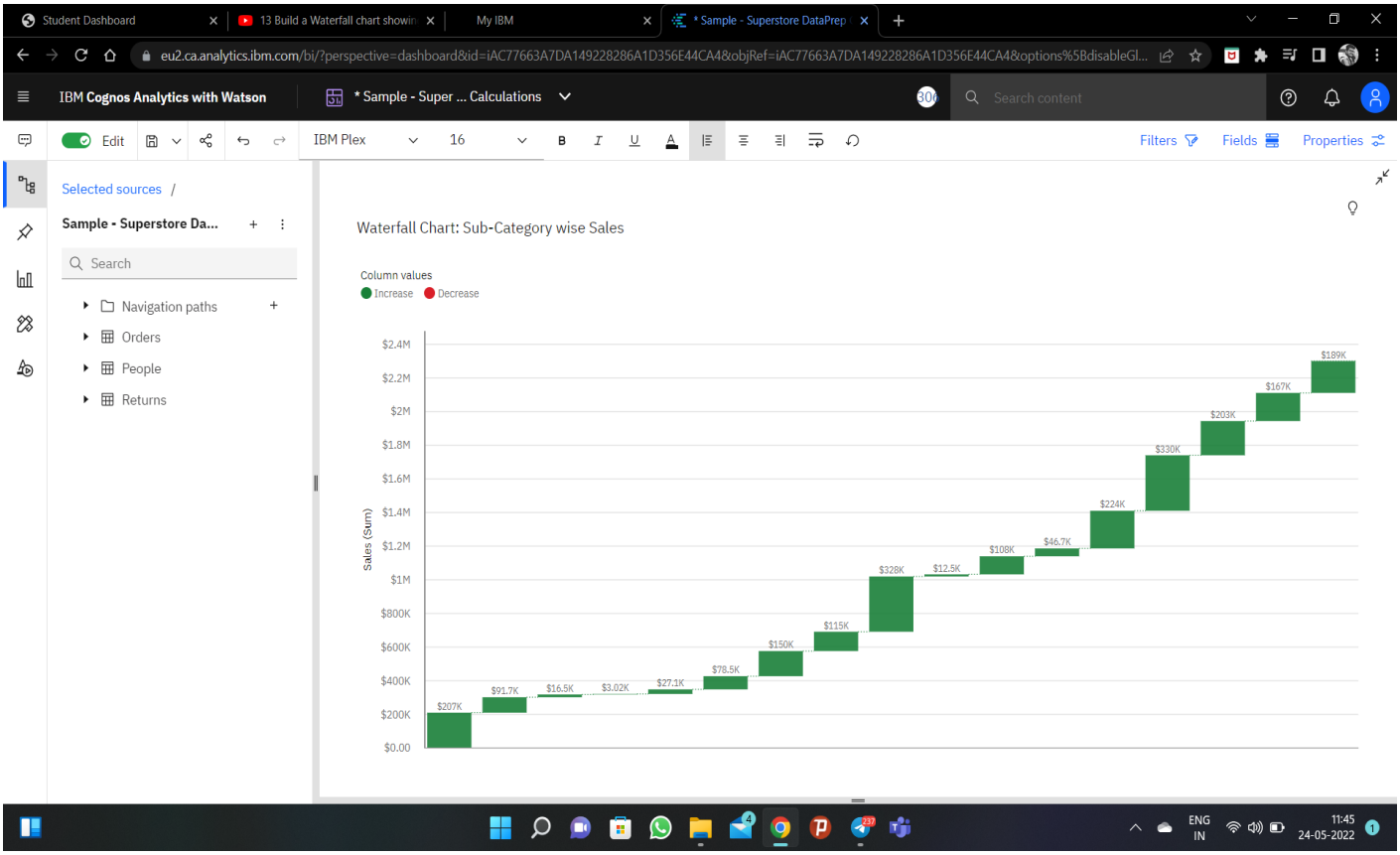
8) **Build A Word Cloud Showing the Sales and Profits**



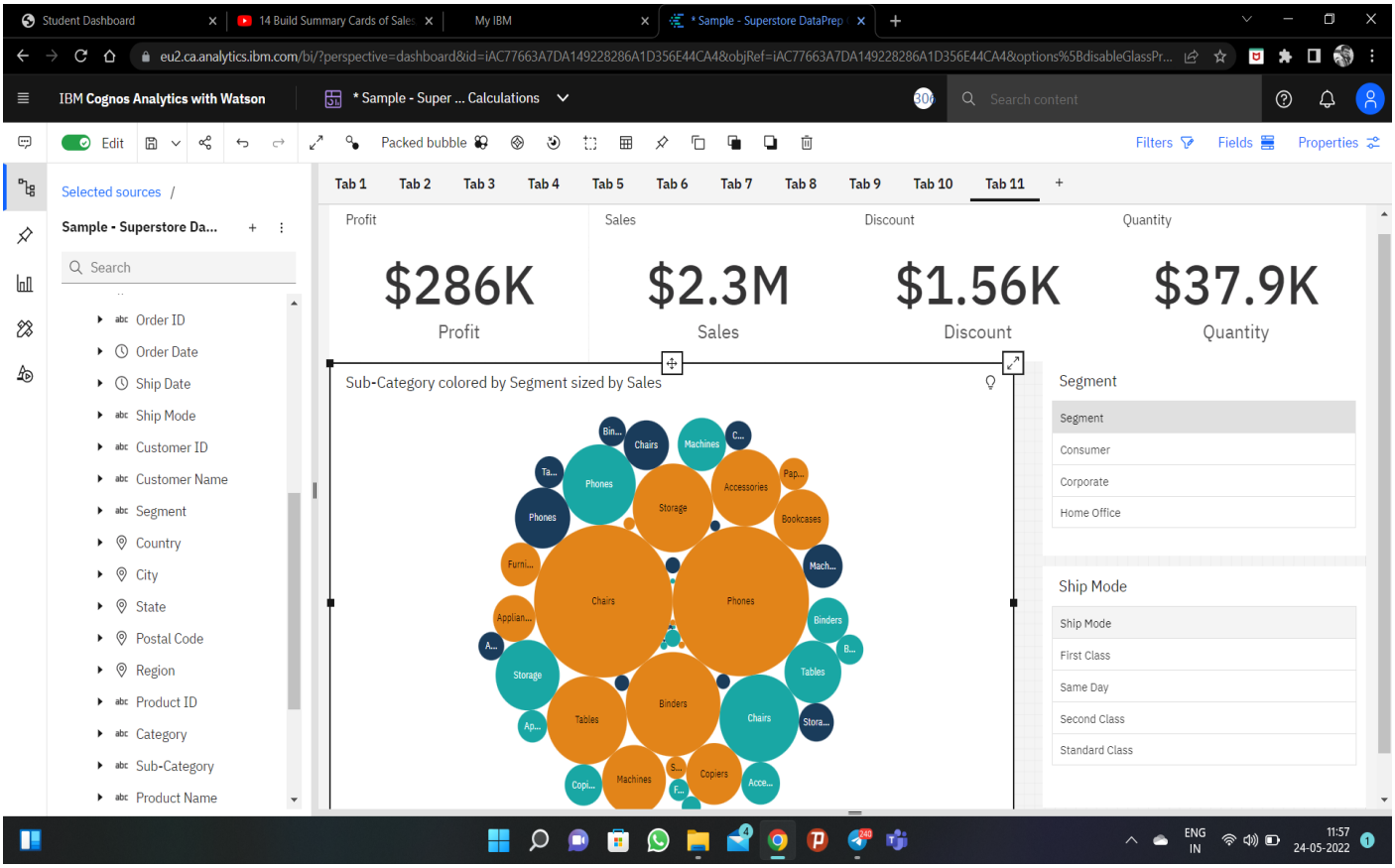
9) **Build A Geographical Map Showing the Sales by States**



10) **Build A Waterfall Chart Showing the Sub-Category Wise Sales**



11) **Build Summary Cards of Sales, Profit, Quantity and Discounts**



12) **Build A Hierarchical Bubble Chart to Show Case Category-Wise Regional Sale**