DATA ANALYTICS WITH SMART-BRIDGE ASSIGNMENT-04

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- ***Title:***

  Exploring Data Insights through Basic and LOD Calculations in Tableau.

- ***Abstract:***

  This document delves into the world of data analysis and visualization using Tableau. It explores the power of both basic and Level of Detail (LOD) calculations to extract meaningful insights from the classical Superstore dataset. Through practical examples, we demonstrate how to perform calculations, from fundamental operations to advanced LOD techniques, to uncover valuable patterns and trends within the data.

- ***Materials and methods***:

  Tableau Desktop

  Superstore dataset

  Basic Calculations: We start with fundamental calculations like total sales, profit margin, average shipping cost, and running totals.

  LOD Calculations: We then introduce Level of Detail calculations, including Fixed, Include, and Exclude LODs.

- ***Introduction:***

  Data analysis is a crucial step in decision-making for any organization. Tableau, a leading data visualization tool, offers a wide array of calculation options to help unlock insights within your data. In this document, we will explore basic calculations, such as aggregating and summarizing data, and then move on to more advanced techniques using Level of Detail (LOD) expressions. By the end, you will be equipped with the knowledge to harness the full potential of Tableau for data analysis.

- ***Implementation:***

Basic Calculation:

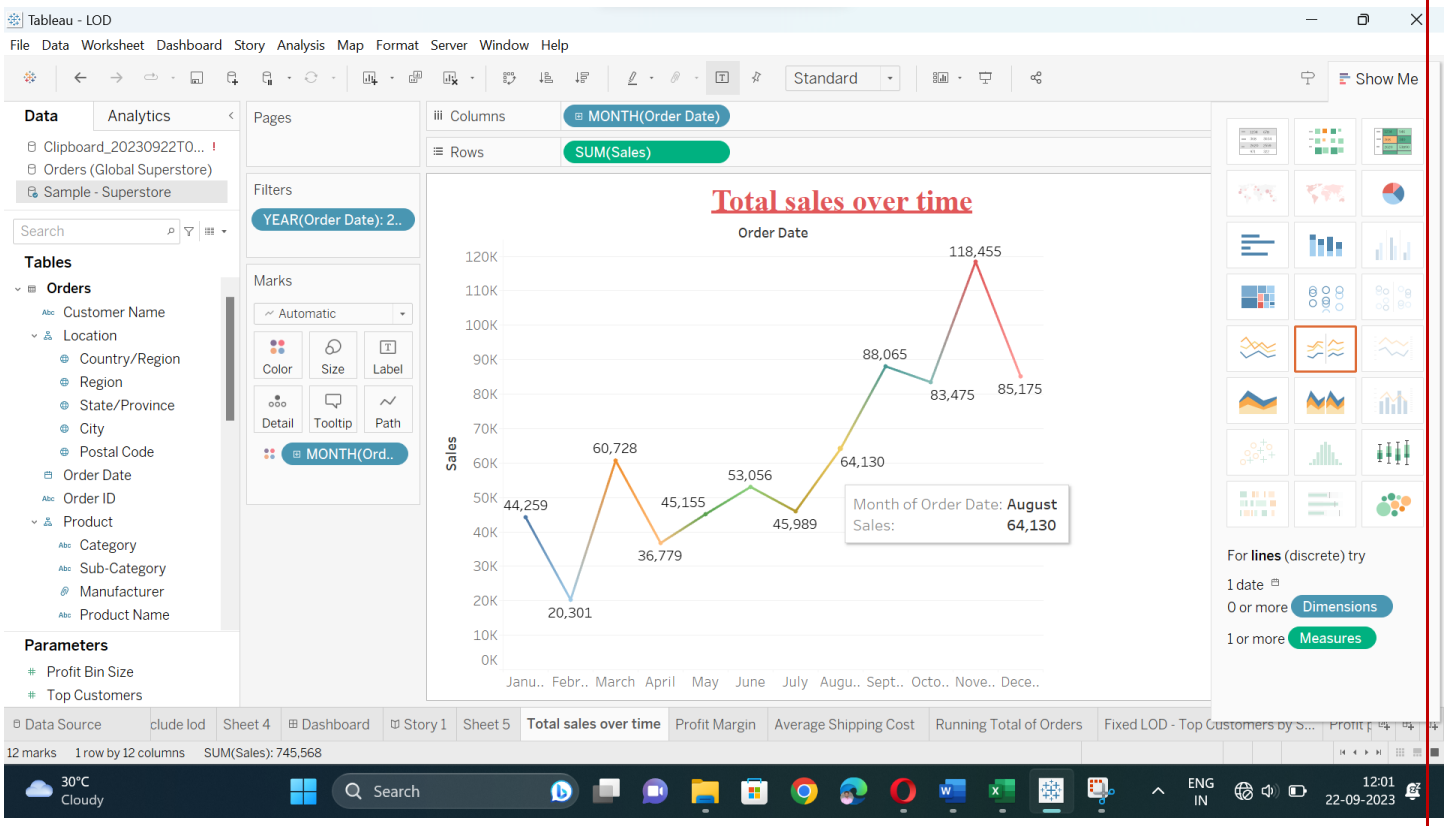
Basic calculations in Tableau refer to straightforward operations and functions applied to your data within a visualization. These calculations often involve standard aggregation functions like SUM, AVG, MIN, MAX, or COUNT and can include conditional statements using IF-THEN-ELSE logic. Basic calculations are essential for summarizing data and creating simple custom fields.

Level of Detail (LOD) Calculations:

Level of Detail (LOD) calculations in Tableau are advanced calculations that enable you to control the granularity or level of detail of your data analysis independently of the dimensions in your visualization. LOD expressions allow you to perform complex calculations by explicitly specifying whether you want to calculate values at a fixed, included, or excluded level of detail. This provides greater flexibility and precision in data analysis and visualization, especially when dealing with complex data relationships.

➢ *Basic Calculations (without LOD):*

Example 1: Total Sales



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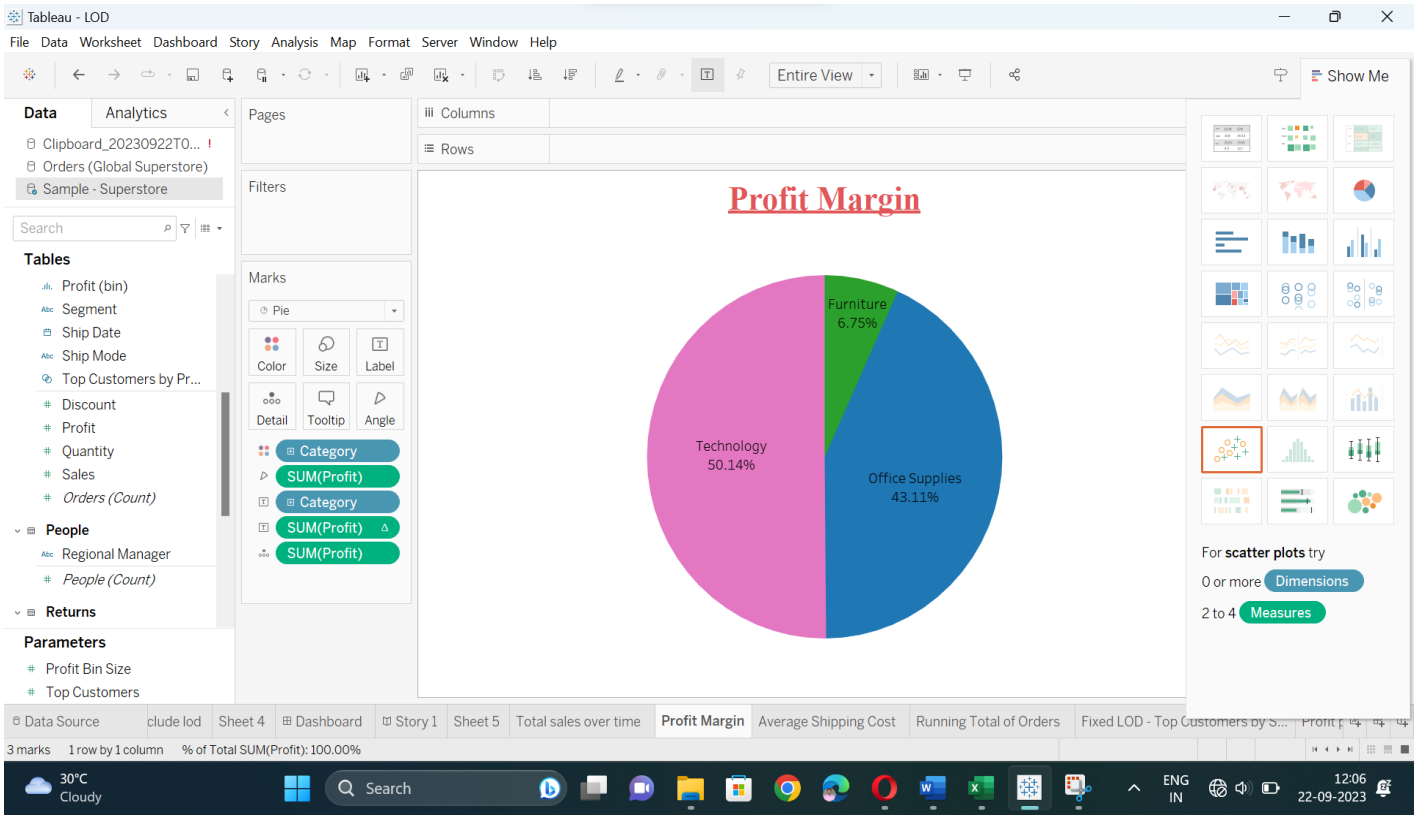
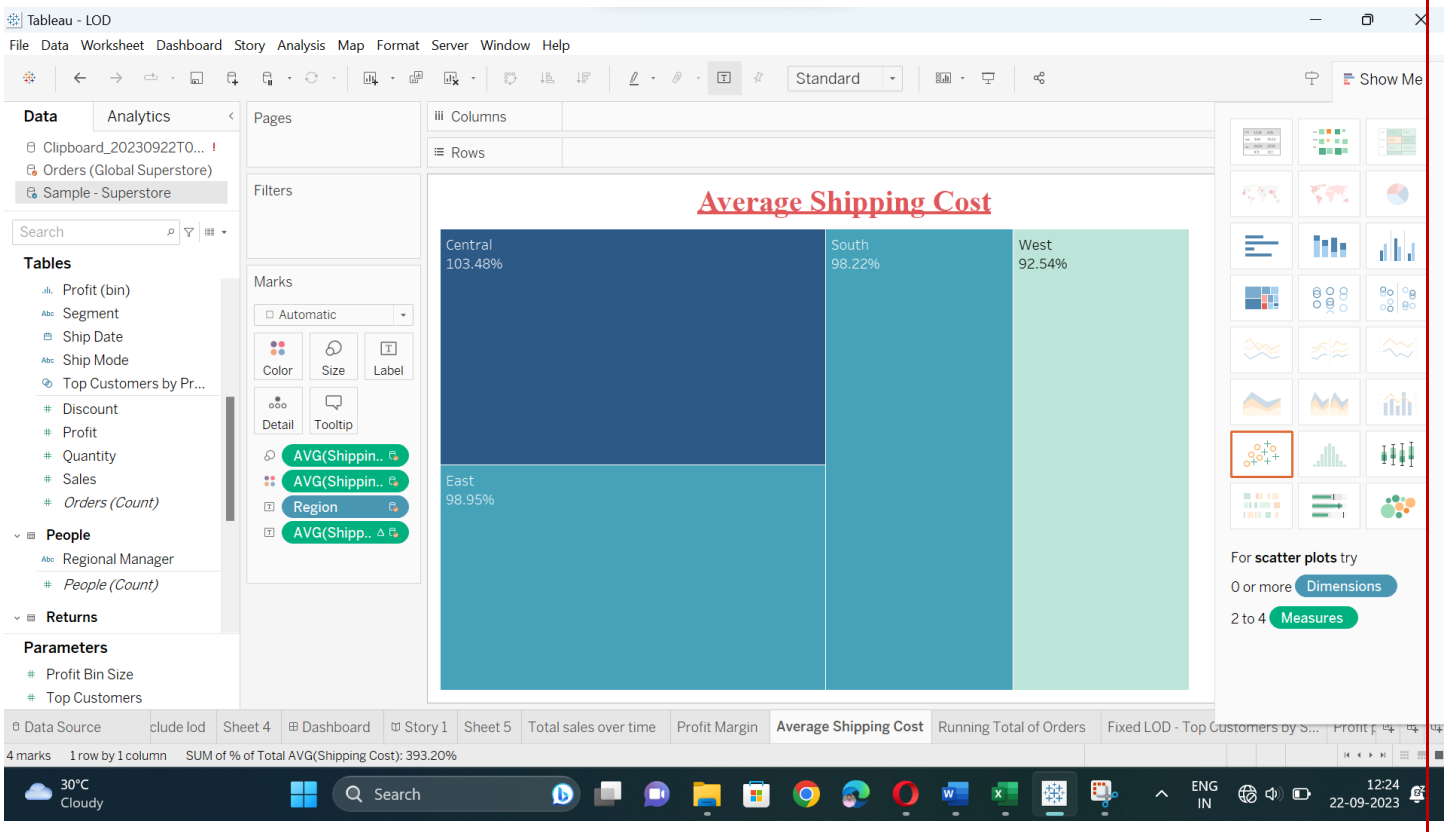
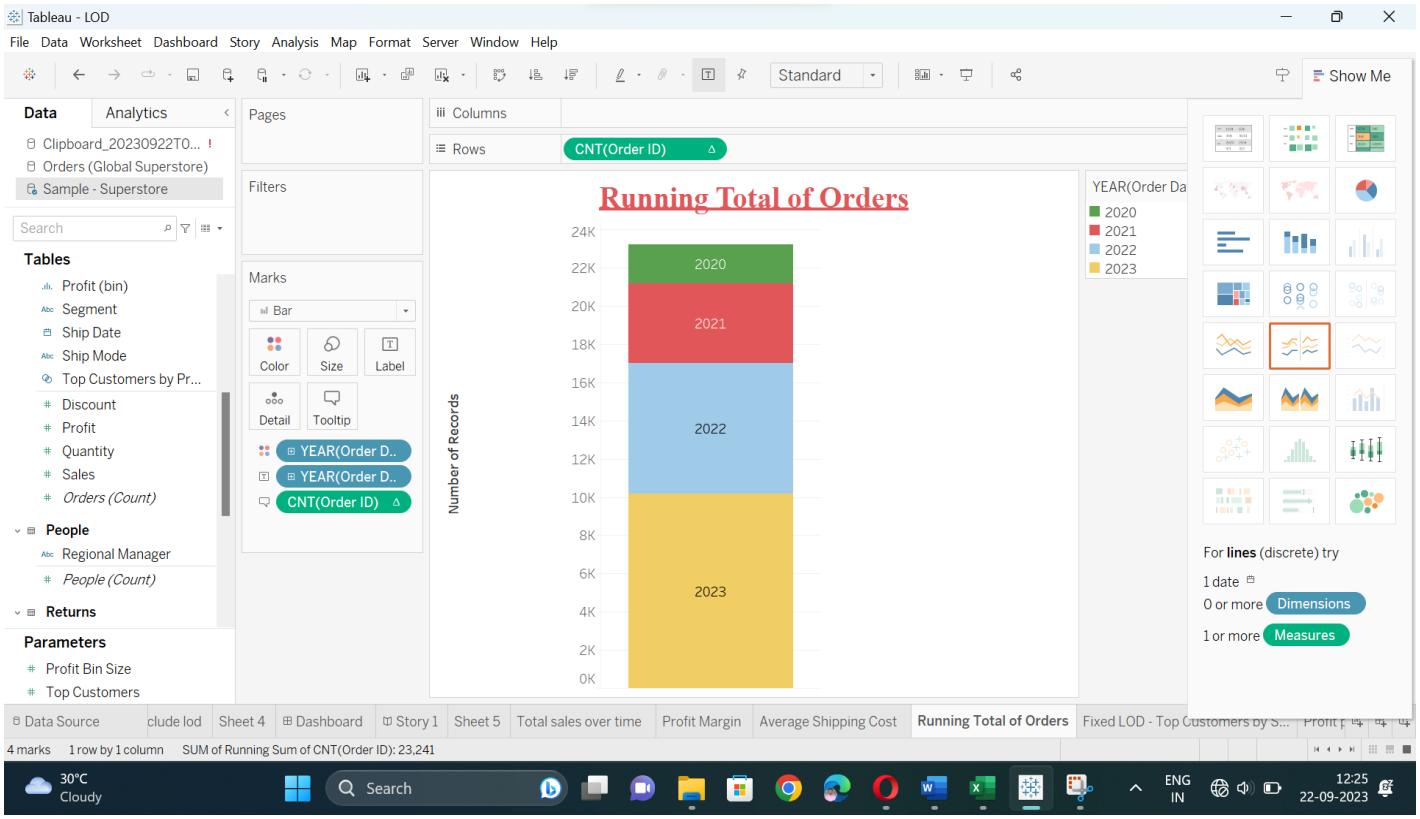
Example 2: Profit Margin



Example 3: Average Shipping Cost

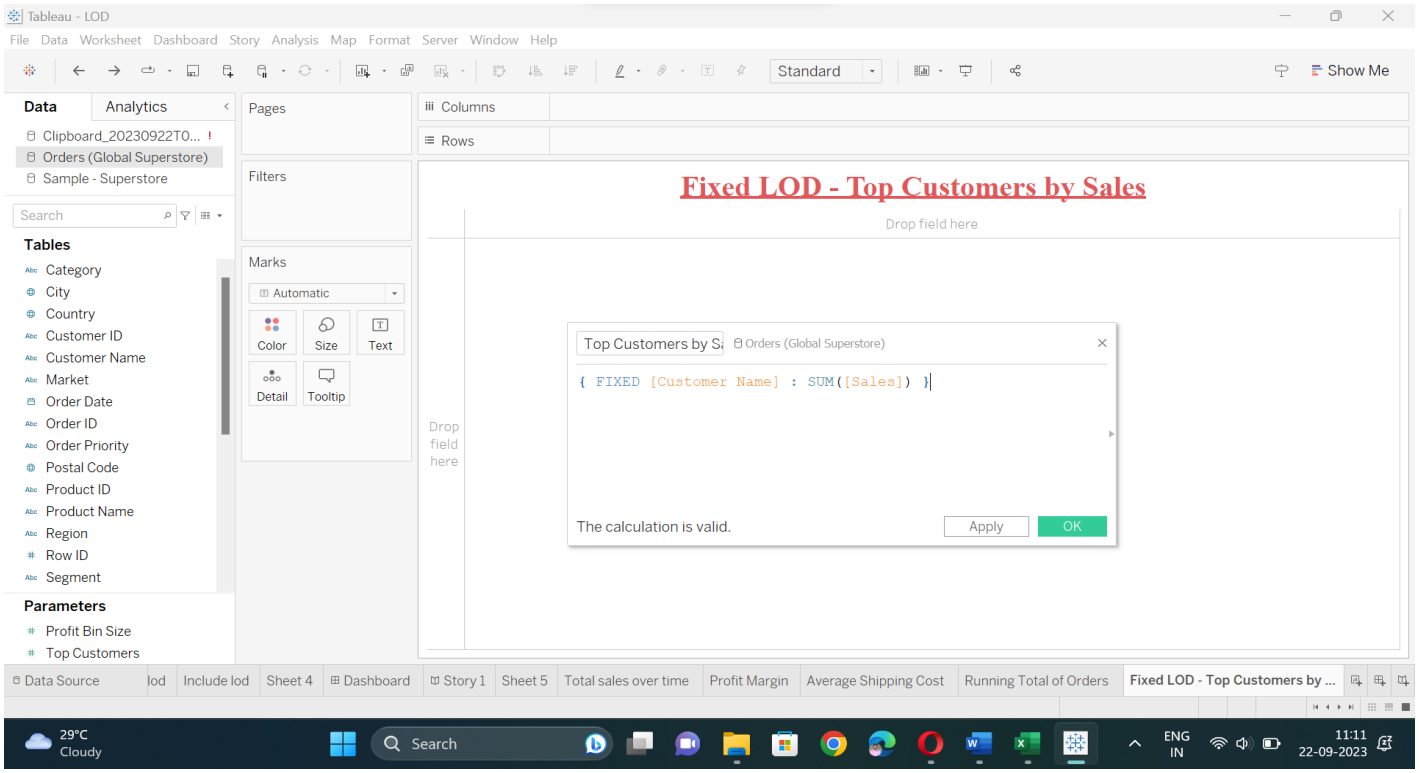


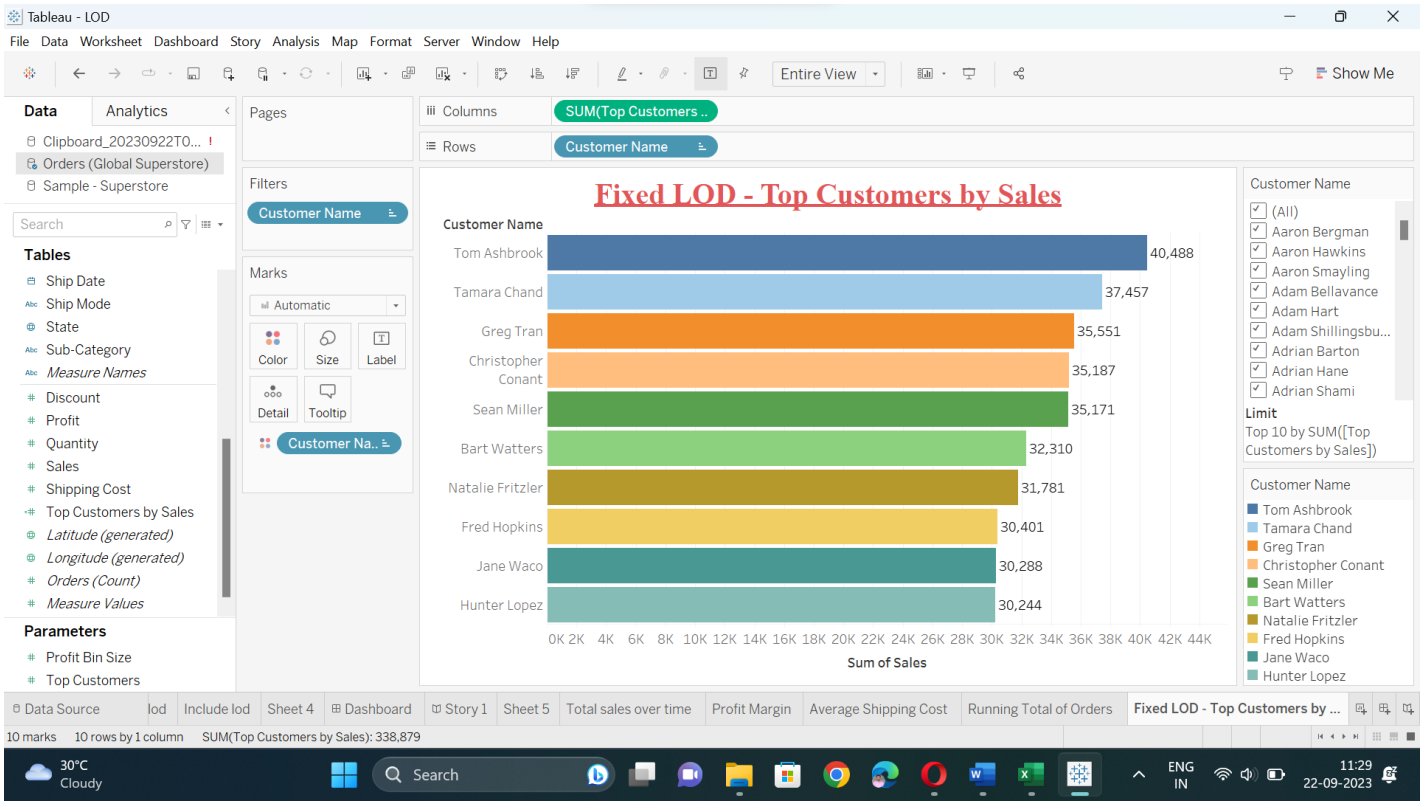
Example 4: Running Total of Orders



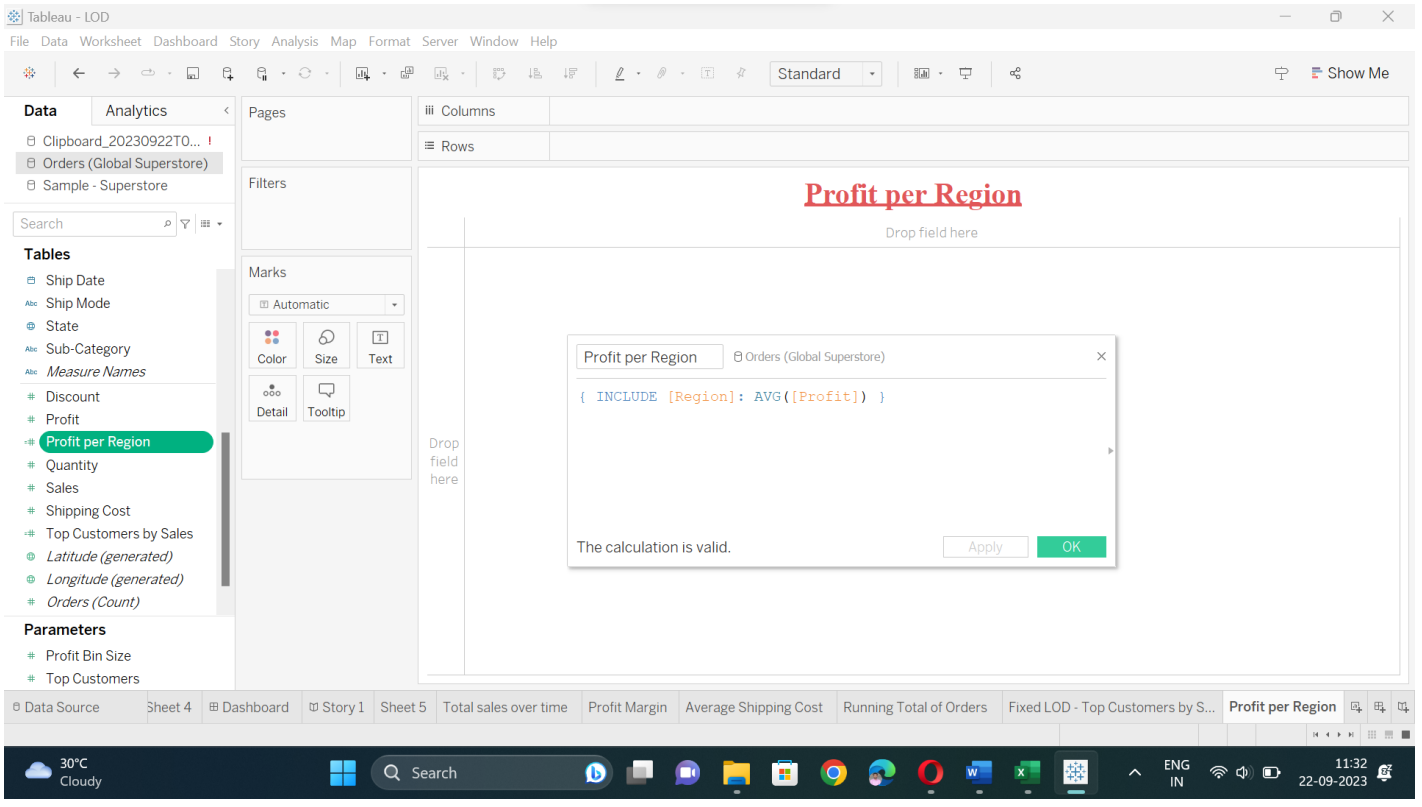
➢ *LOD Calculations*

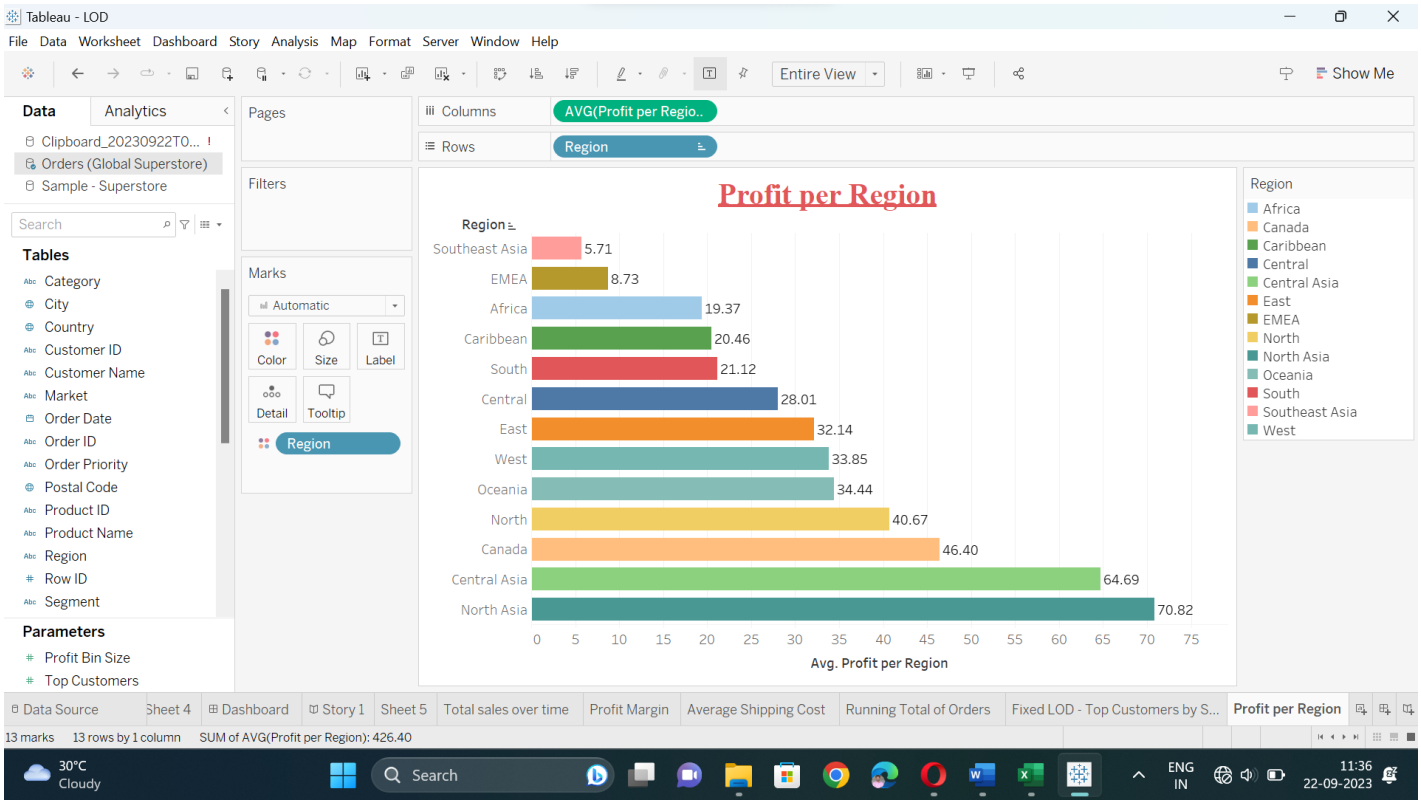
Example 5: Fixed LOD - Top Customers by Sales



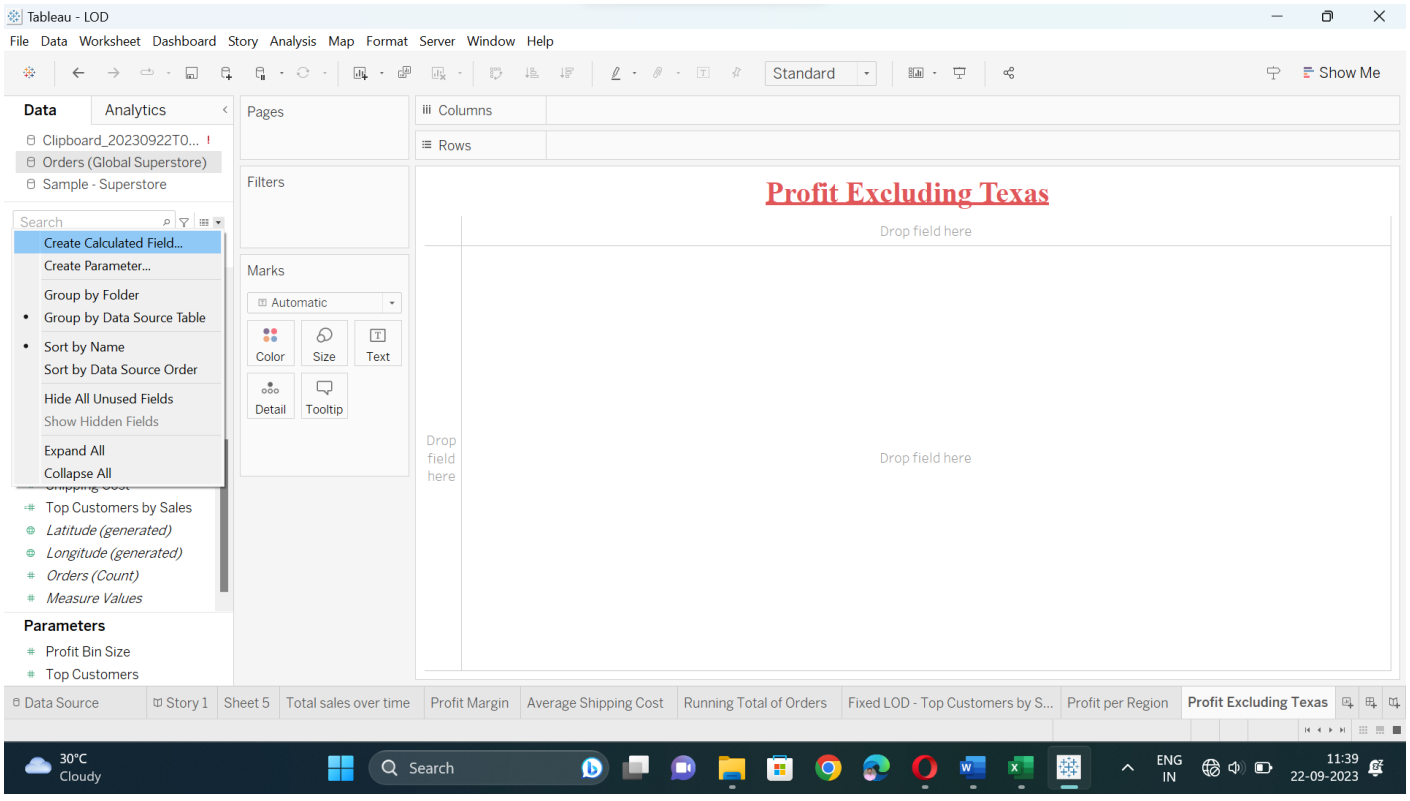


Example 6: Include LOD - Profit per Region





Example 7: Exclude LOD - Profit Excluding Texas



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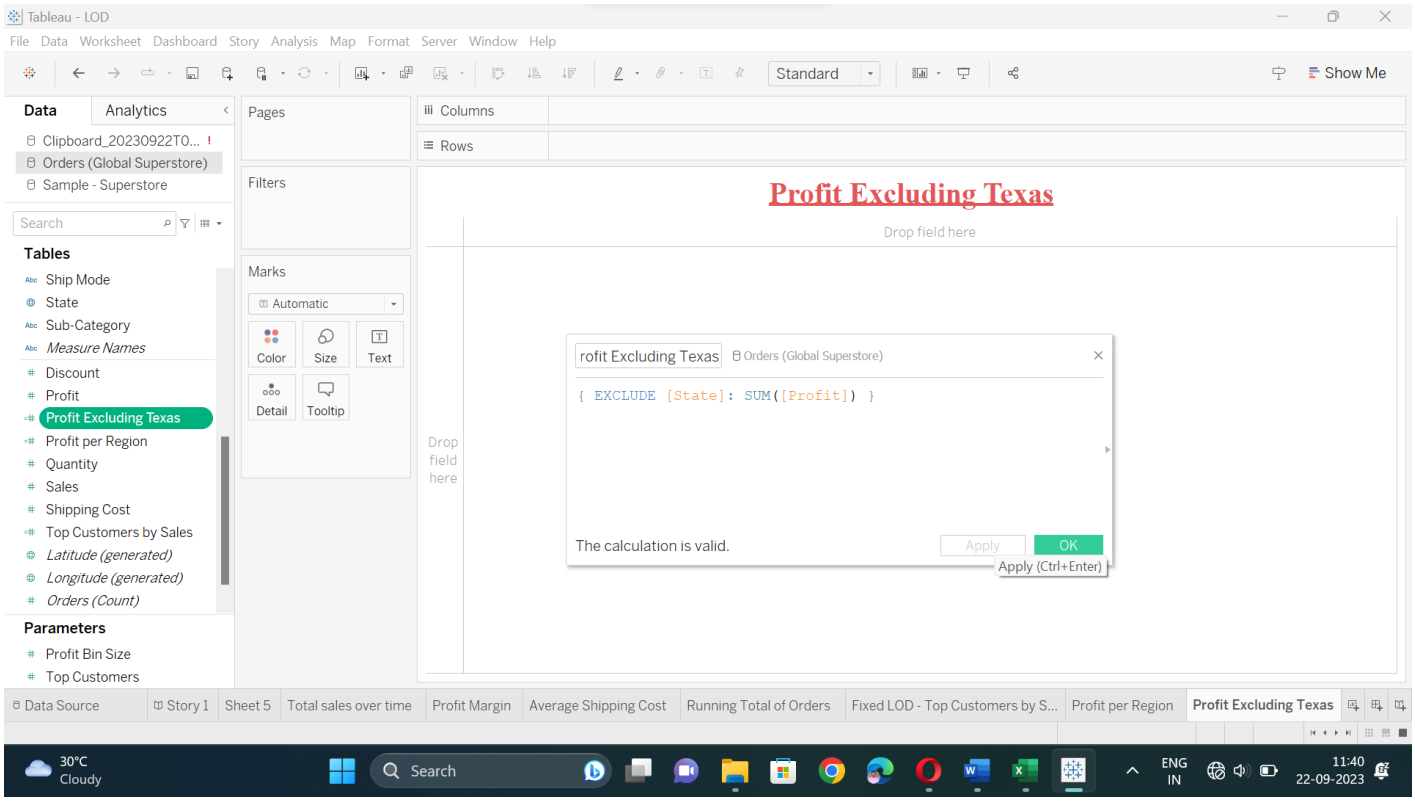
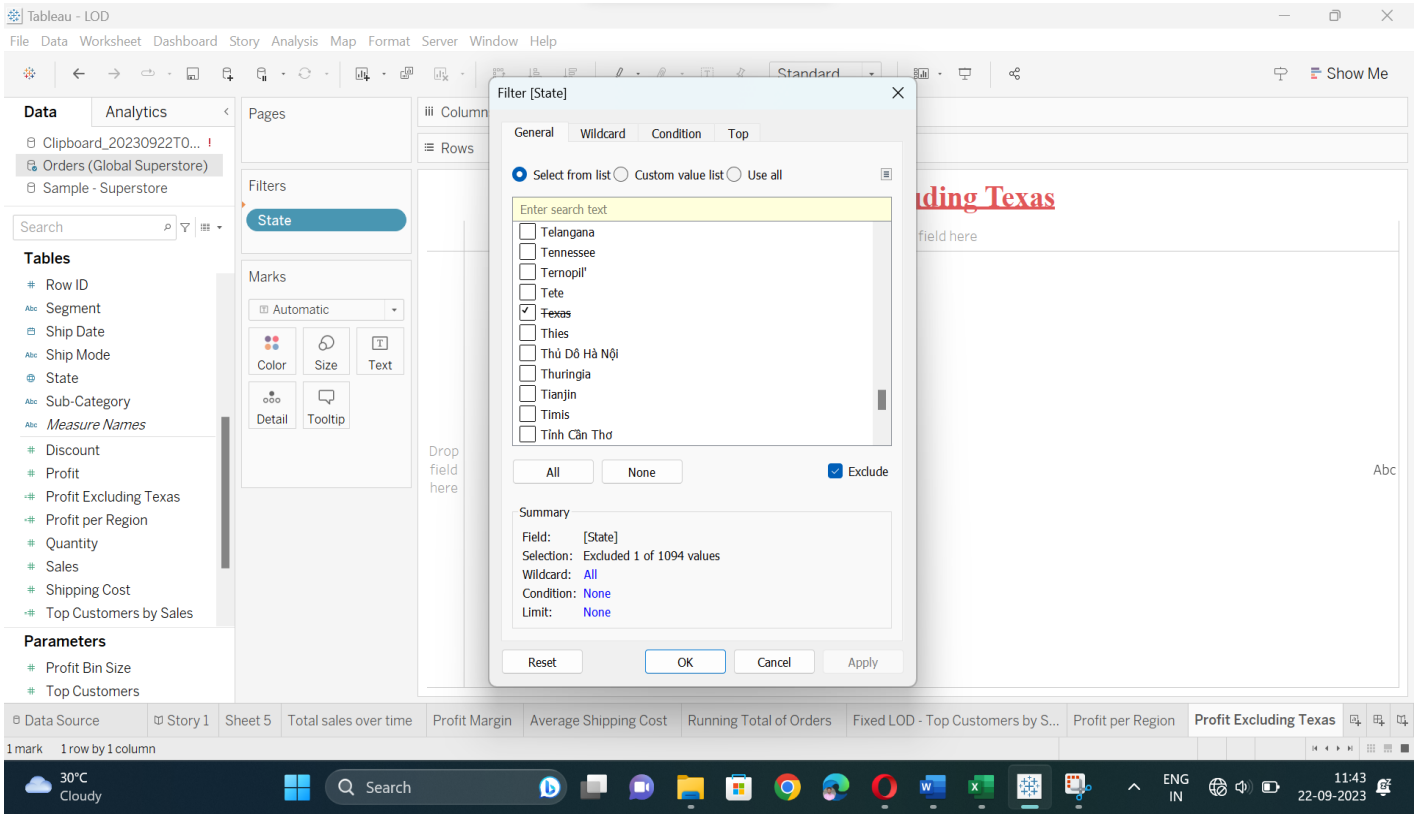
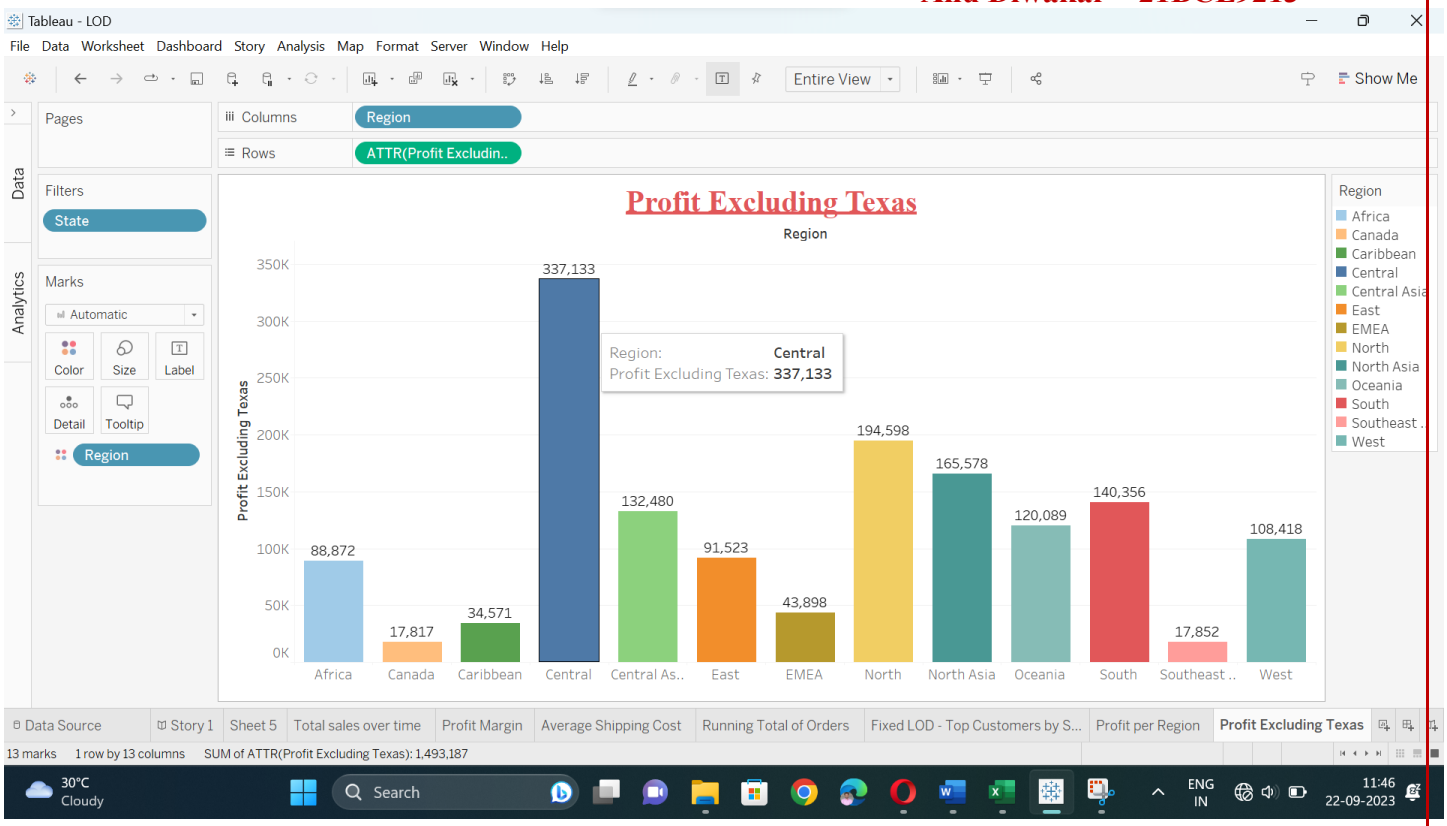
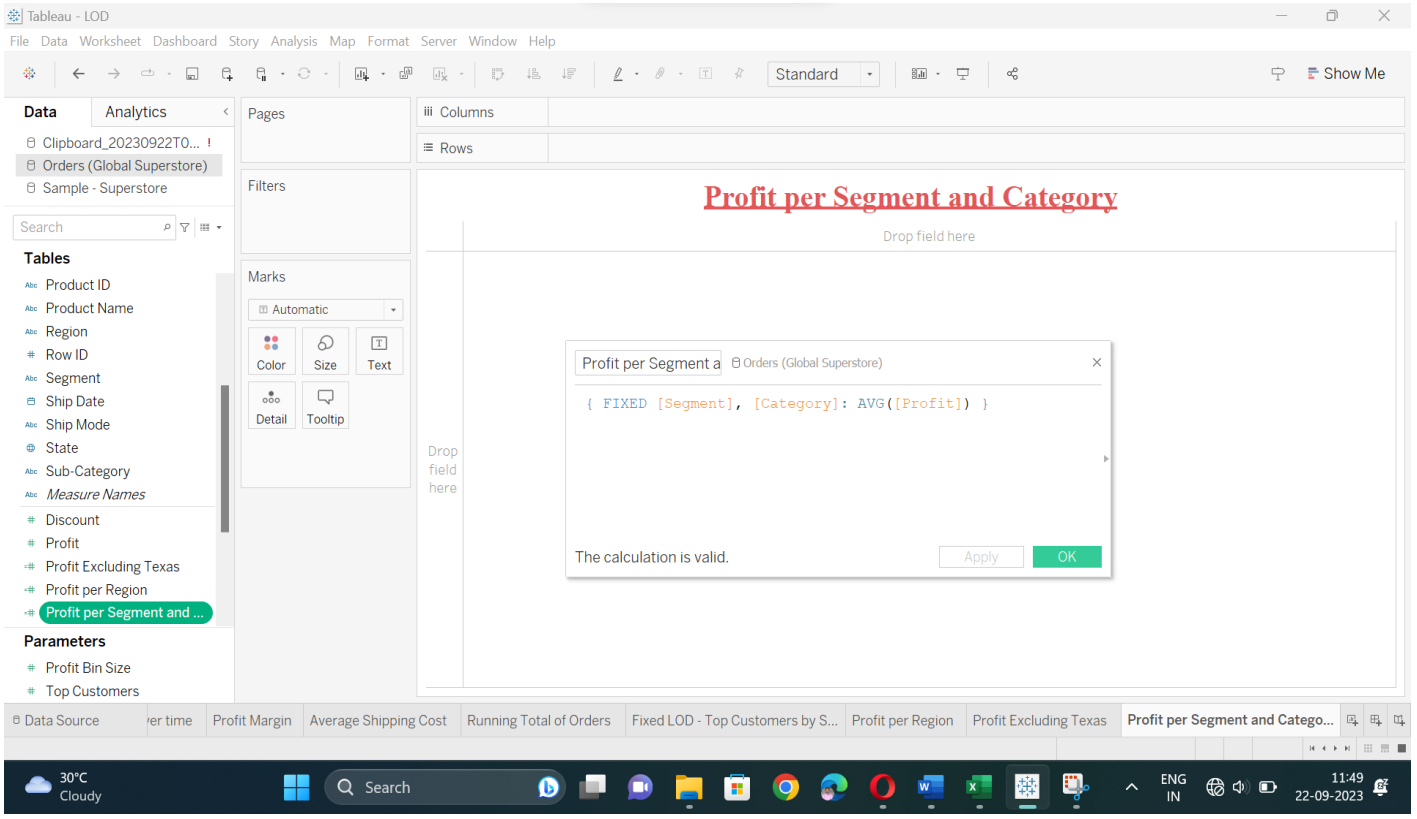
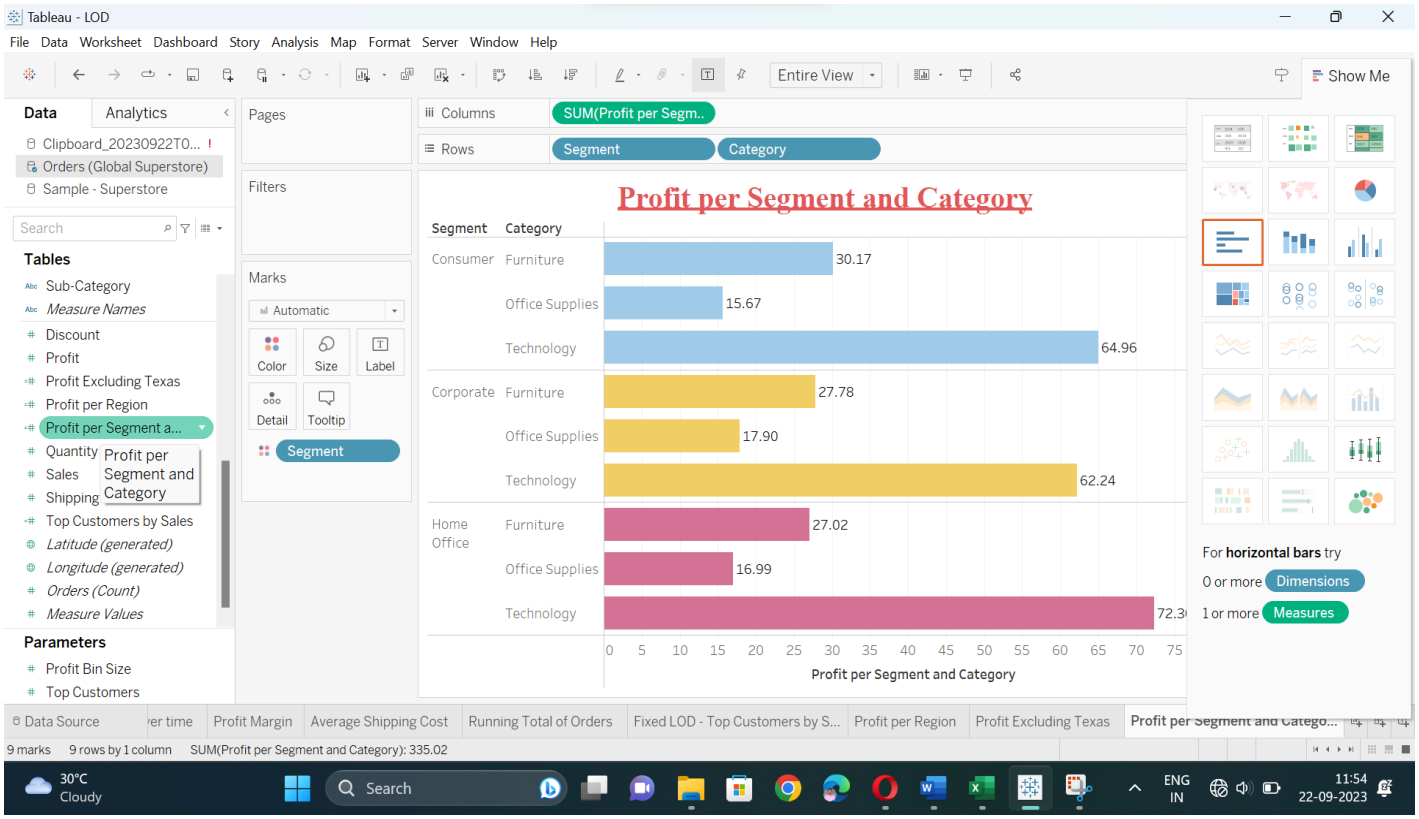






Example 8: Nested LOD - Profit per Segment and Category





- ***Results.***

These examples demonstrate both basic and LOD calculations using the Superstore dataset, showcasing the versatility of Tableau for data analysis and visualization at different levels of granularity. We explored LOD calculations to gain deeper insights into the data, including identifying top customers by sales, analysing profit per region, and investigating profit trends while excluding specific states. These calculations helped us uncover valuable patterns and relationships within the dataset.

- ***References:***

https://help.tableau.com/current/pro/desktop/en-us/calculations_calculatedfields_lod.htm?_gl=1*6hu7pp*_ga*MTYxMzQyNzAyOS4xNjkzNDA0ODAx*_ga_8YLN0SNXVS*MTY5NDY5NjA5NS4xMy4xLjE2OTQ2OTY2NTQuMC4wLjA.

https://www.tableau.com/blog/LOD-expressions