Title: Tableau Dashboard Project

Business Intelligence Case Study: Customer Churn Analysis

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Introduction

This project showcases the development of an **interactive business intelligence dashboard** in Tableau using the **Superstore dataset**. Designed with a focus on **data storytelling and decision support**, the dashboard empowers users to explore sales and profit performance across regions, products, and customer segments.

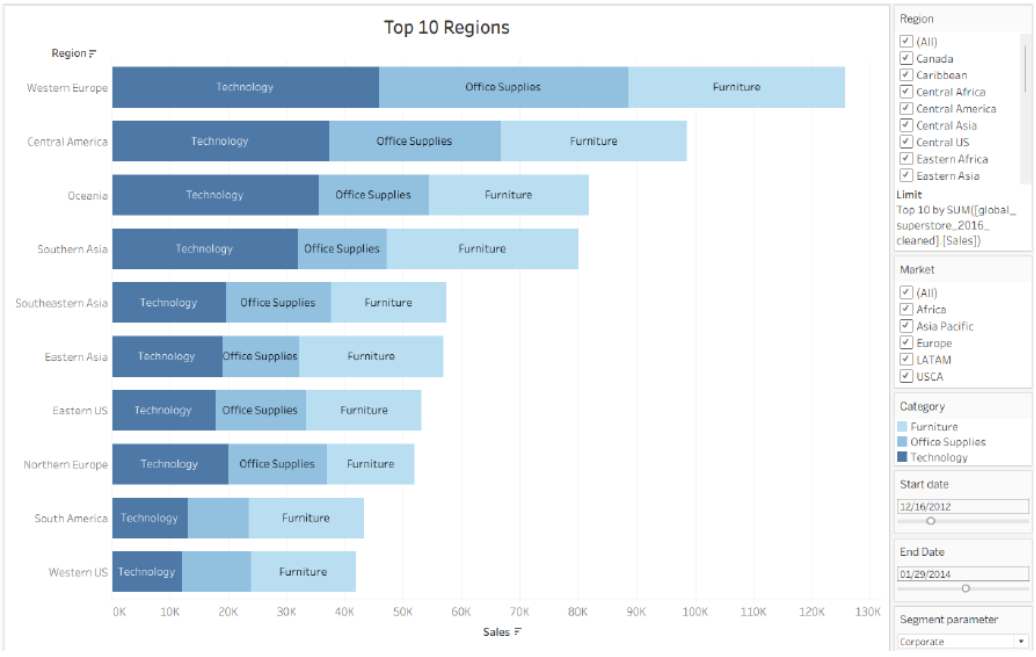
Key features include:

- **Six dynamic visualizations** (bar, line, bubble, scatter, treemap, and map).
- **Two date-range parameters** with calculated fields for custom time filtering.
- **One list-based parameter** for interactive segment analysis.
- A **unified dashboard** that allows executives and analysts to adjust filters and instantly see results.

This project demonstrates strong capabilities in **Tableau, business intelligence, and interactive reporting**. By integrating parameters and calculated fields, the dashboard goes beyond static visuals to deliver **self-service analytics** that support data-driven decision-making.

Different Plots and Filters

1. **Top 10 Regions (Stacked Bar Plot)**

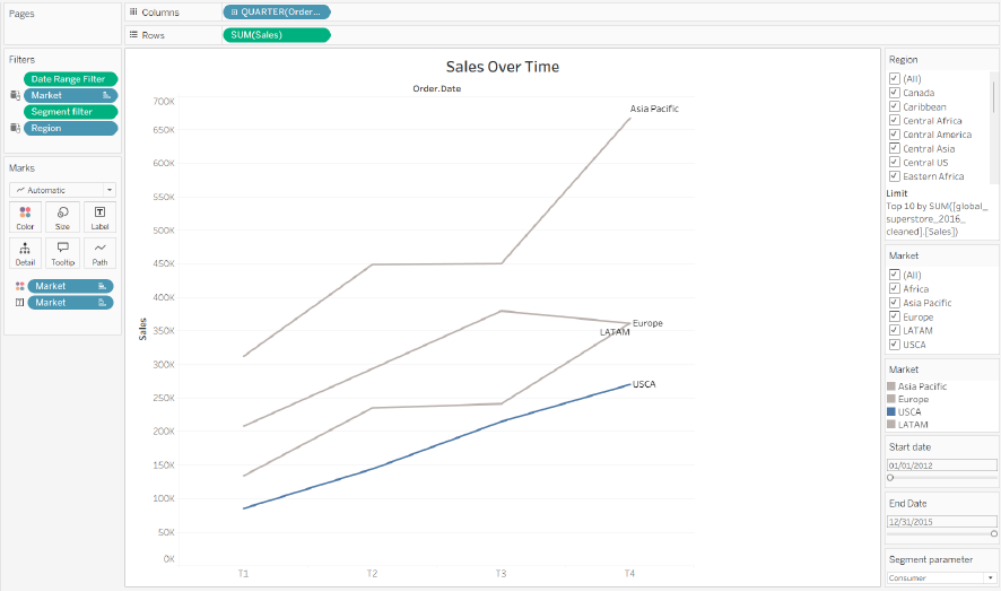


Plot Type: Horizontal stacked bar chart.

Filters Shown: Region, Market, Category, Start Date, End Date, Segment Parameter.

Functionality: Displays top regions by sales across categories.

2. **Sales Over Time (Line Chart by Quarter)**

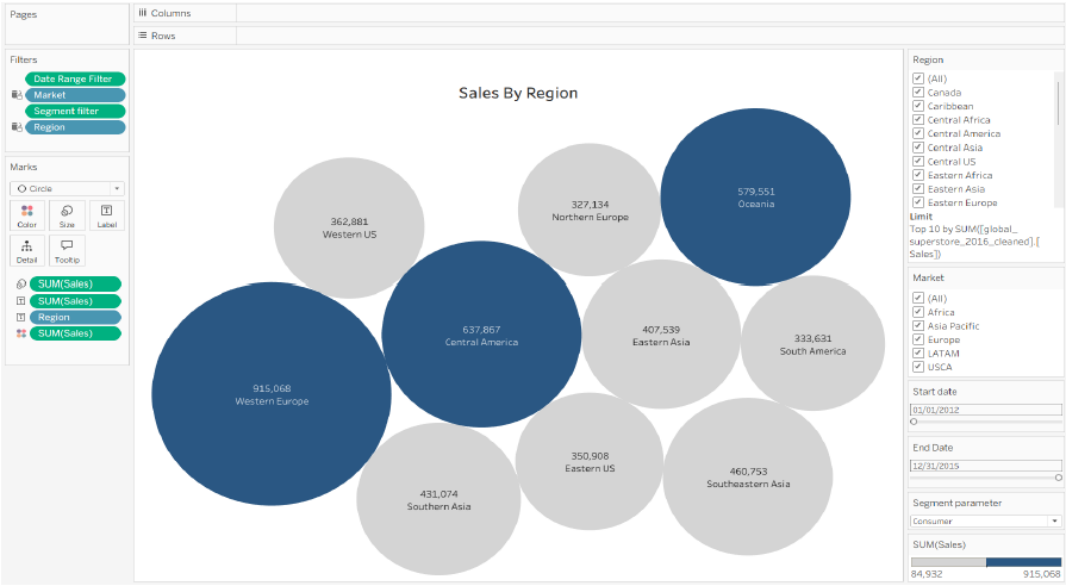


Plot Type: Line chart over quarterly periods.

Filters Shown: Date Range Filter, Market, Segment Filter, Region.

Functionality: Visualizes trend of sales across time and markets.

3. **Sales by Region (Bubble Plot)**

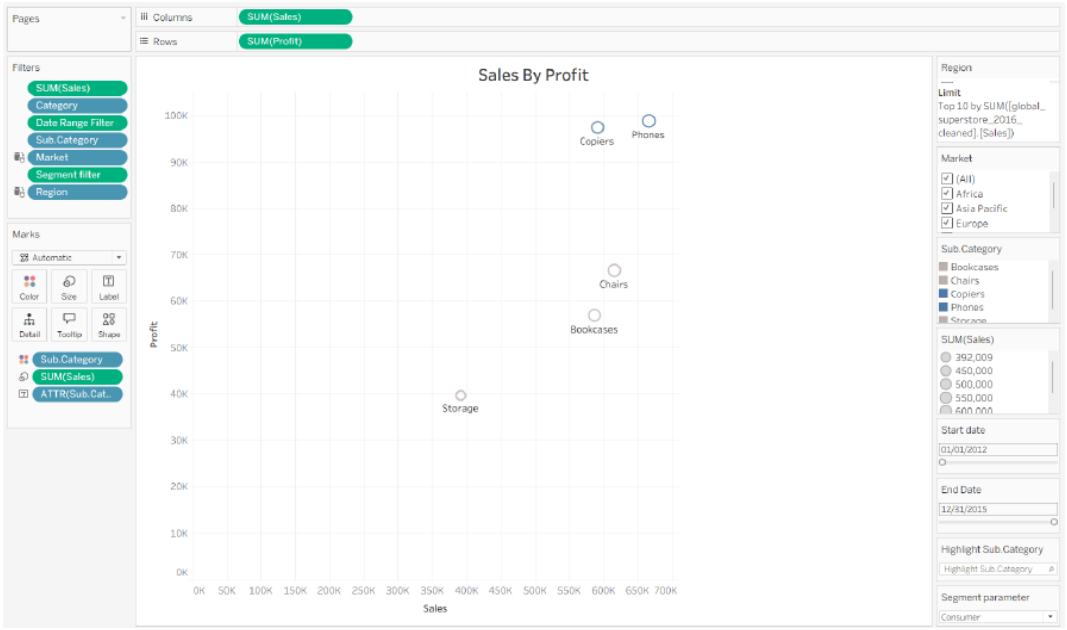


Plot Type: Packed bubbles.

Filters Shown: Date Range Filter, Market, Segment Filter, Region.

Functionality: Visual representation of sales volume by region.

4. **Sales by Profit (Scatter Plot)**

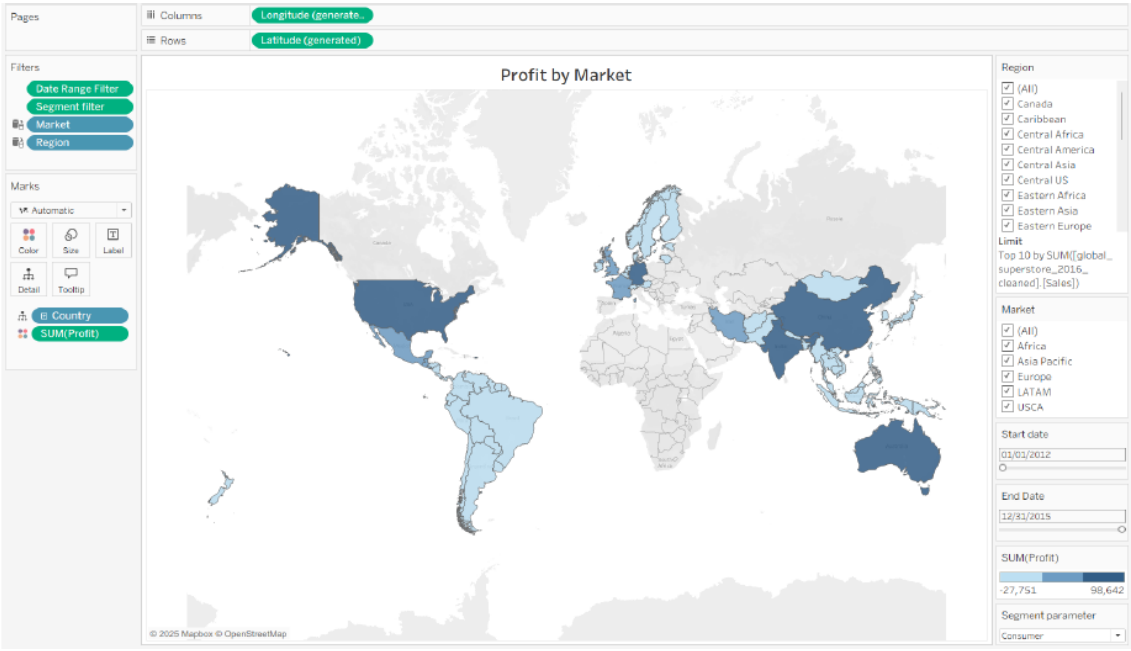


Plot Type: Scatter plot with Sub-Category shapes.

Filters Shown: Date Range Filter, Market, Region, Category, Segment Filter.

Functionality: Shows profit vs sales relationship by sub-categories.

5. **Profit by Market (Map Visualization)**

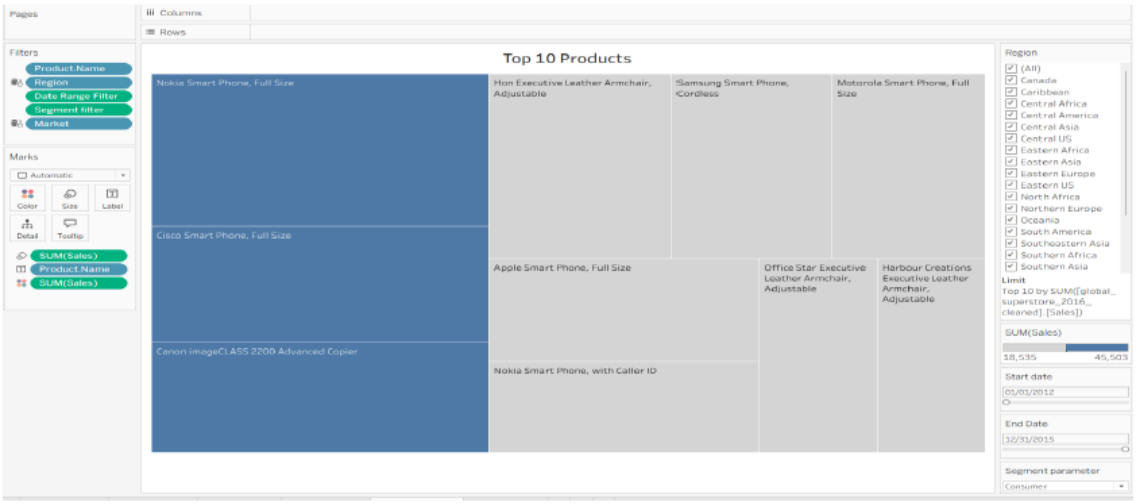


Plot Type: Filled map chart (geographic).

Filters Shown: Date Range Filter, Segment Filter, Market, Region.

Functionality: Indicates geographical variation in profit.

6. **Top 10 Products (Treemap)**



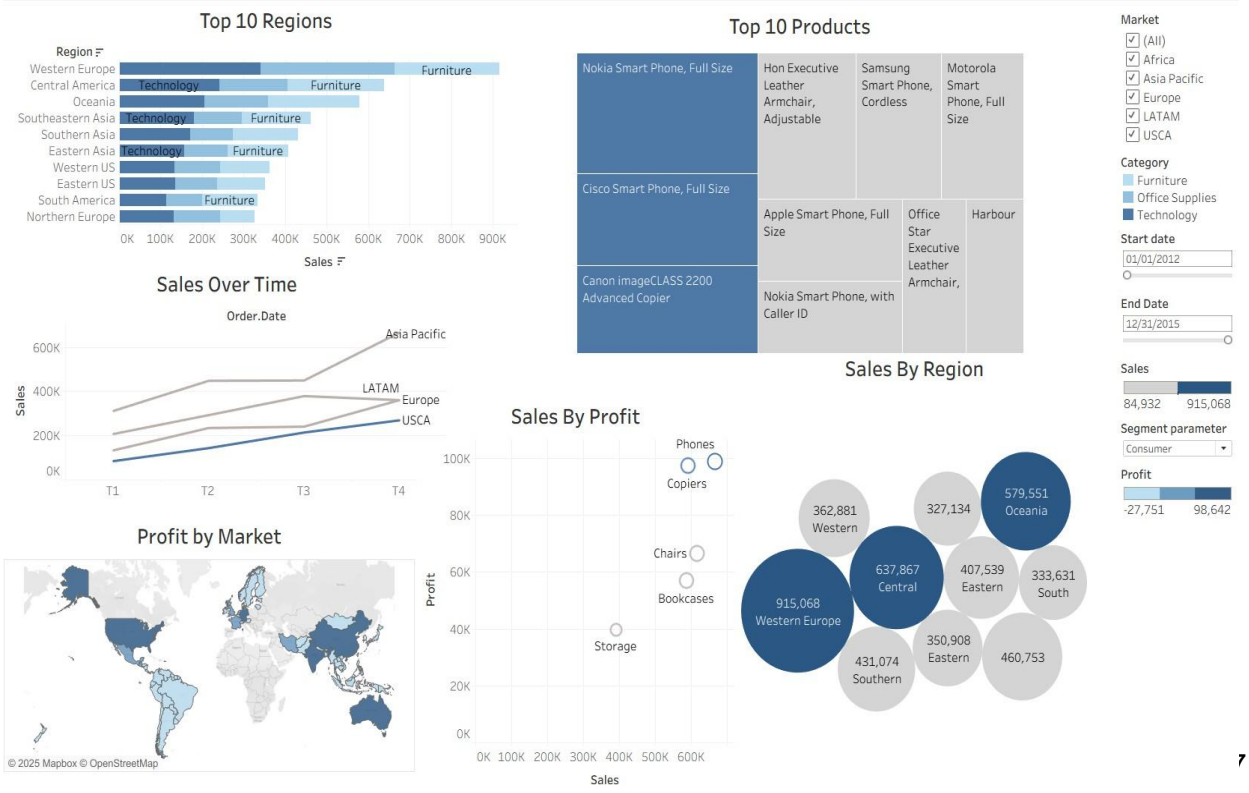
Plot Type: Treemap.

Filters Shown: Date Range Filter, Segment Filter, Market, Region.

Functionality: Displays highest selling products by name and sales value

Two Date-Oriented Range-Based Parameters and Calculated Field

Dashboard (visual 1): the start date and end date are from 1/1/2012 – 12/31/2015 and with consumer as segment parameter



Date Parameters Displayed:

- Start date: 01/01/2012
- End date: 12/31/2015

Parameter Controls are clearly shown on the right-hand panel.

Calculated Field Applied:

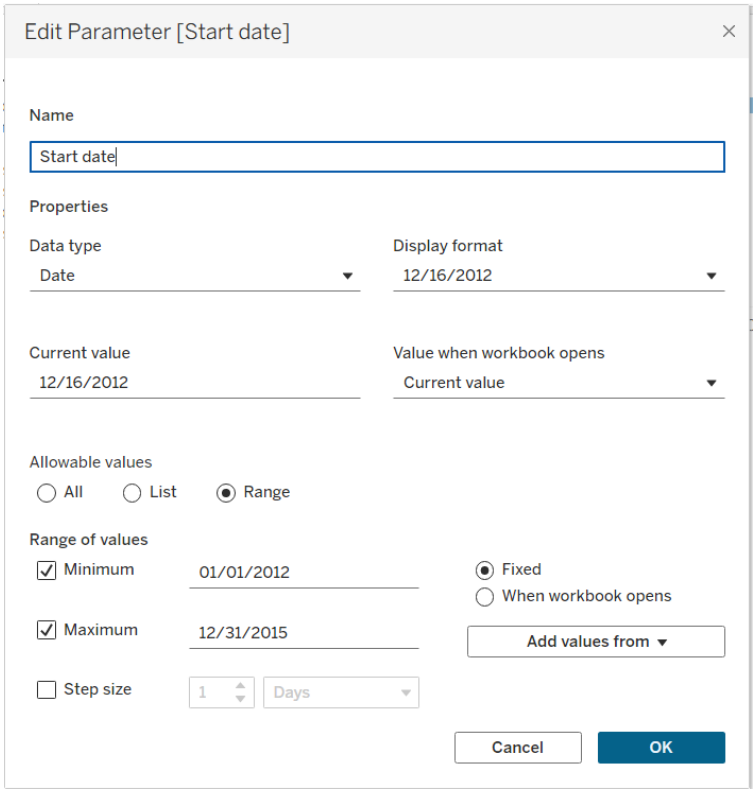
- Filters pane confirms its use in the individual sheet visuals as Date Range Filter.

Effect on Visualization:

- All plots in the dashboard (e.g., "Sales Over Time", "Profit by Market", etc.) are filtered according to the defined date range.
- This confirms that the calculated field linked to these parameters is effectively filtering data.

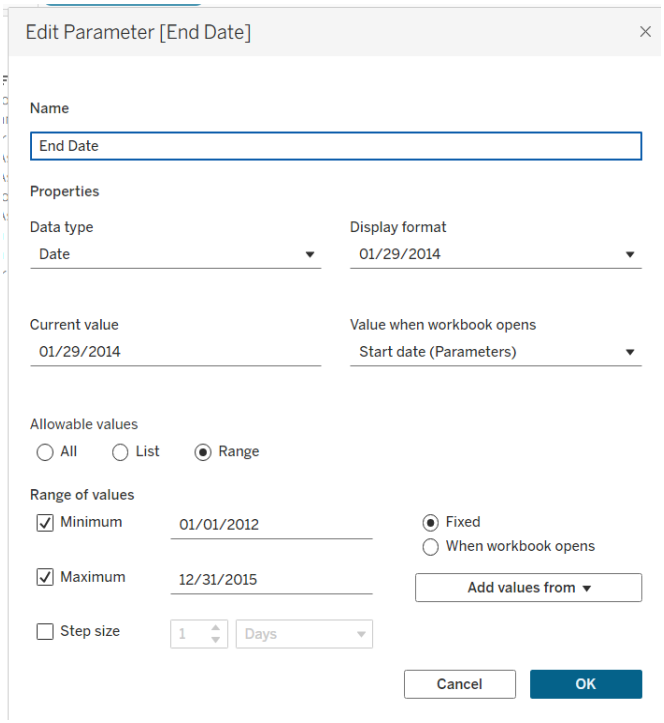
Start Date Parameter:

- **Data Type**: Date
- **Range**: 01/01/2012 to 12/31/2015
- **Current Value**: 12/16/2012
- Clearly shown with allowable range configured.



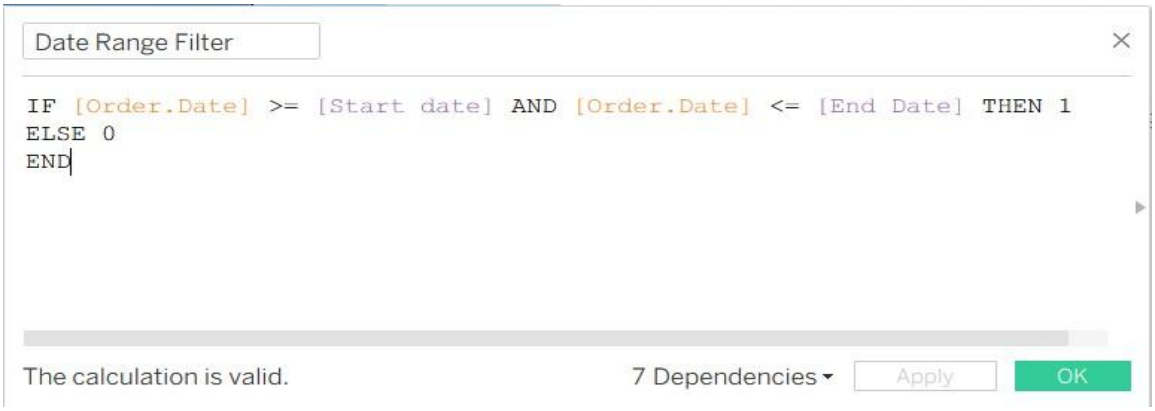
End Date Parameter:

- **Data Type**: Date
- **Range**: 01/01/2012 to 12/31/2015
- **Current Value**: 01/29/2014
- Value when workbook opens: Based on the Start Date (linked to parameter).

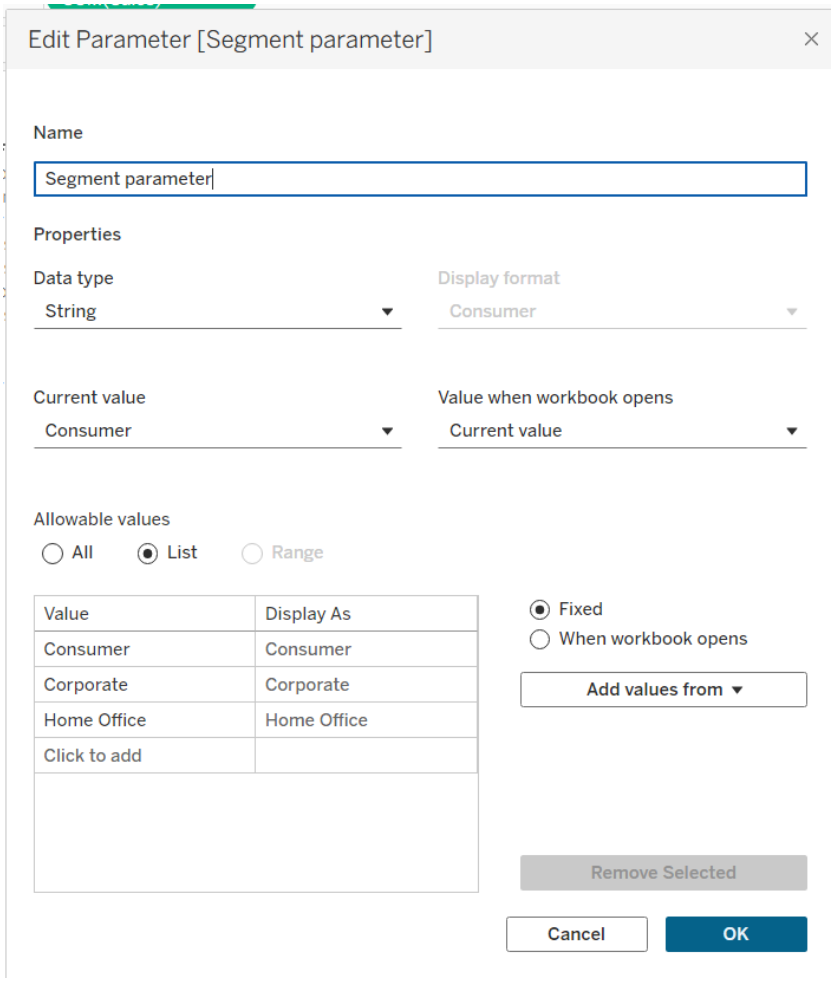


Calculated fields

Date Range Filter → this is the calculated field lined to the parameters of **start date and end date.**



One List-Based Parameters and Related Calculated Field

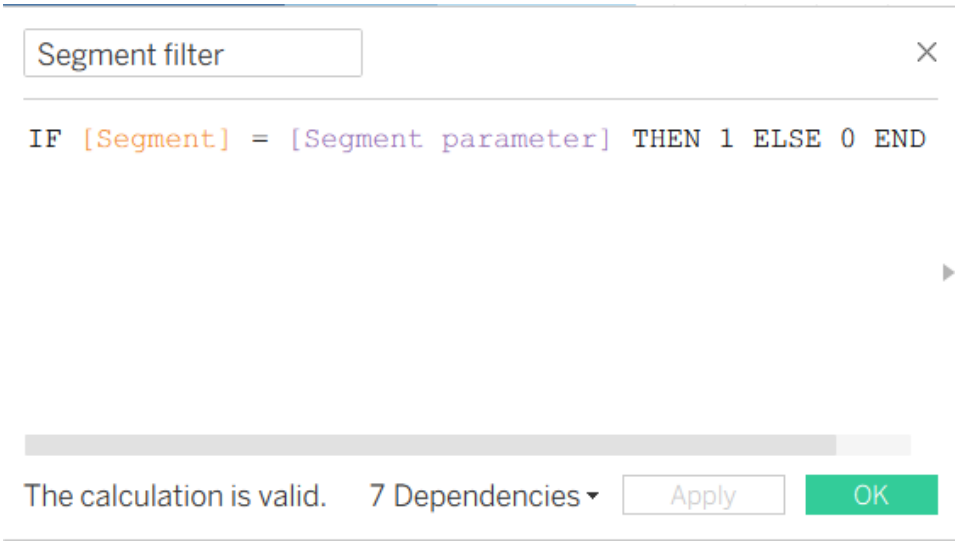


Segment Parameter (List-Based)

- **Type**: String
- **Values**: Consumer, Corporate, Home Office
- **Default**: Consumer
- Clearly configured using the “List” option

Segment Filter (Calculated Field)

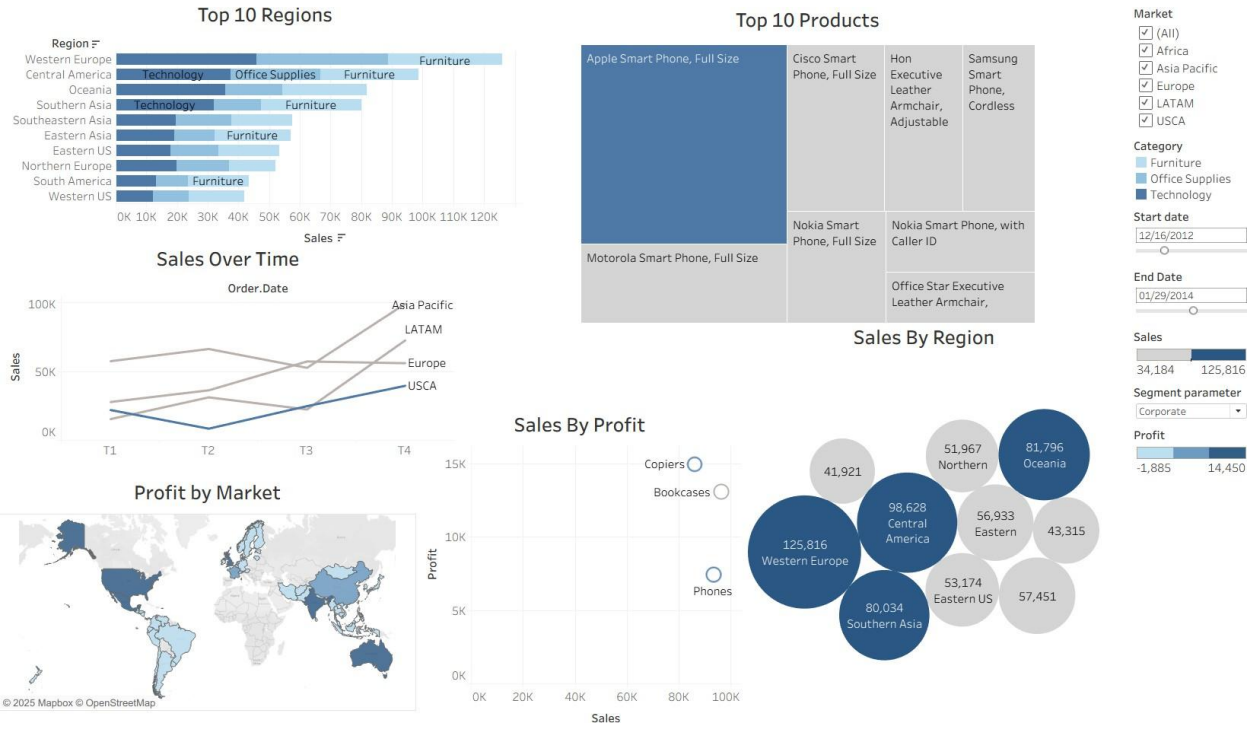
- Segment filter →calculated field linked to the Segment parameter



Dashboard (visual 2)

In this visual, the only changes are in the start date and the end date AND in the segment parameter(corporate) → segment parameter is the drop-down menu

You can see the start date and ed date in the visual



Start Date: 12/16/2012

End Date: 01/29/2014

Segment Parameter: *Corporate*

Result: Visual changes are clearly evident:

- Smaller sales and profit values.
- Different top-performing products and regions.
- All visuals reflect the narrower date range and new customer segment.

Conclusion

This project highlights the ability to create dynamic, user-driven dashboards in Tableau using the Superstore dataset. By integrating multiple chart types, date and segment-based filters, and calculated fields, it was developed successfully a comprehensive visualization tool. The result is a fully interactive dashboard that empowers users to explore sales and profit data through customized views, enhancing data-driven decision-making.

Reference

Tableau Software. (2024). *Tableau Desktop: Visual Analytics*. Retrieved from https://www.tableau.com/

Tableau Help. (2024). *Create Parameters*. Retrieved from https://help.tableau.com/current/pro/desktop/en-us/parameters_create.htm

Superstore Dataset. (n.d.). Sample data available in Tableau Desktop.