Tableau Webinar Series for EGS

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WELLS FARGO

tableau

Webinar Series

WELLS FARGO

Title	Date & Time	Description
Introduction to Tableau	16 Aug – 06:00 PDT 16 Aug – 18:30 IST	Gartner refers to Tableau as the 'gold standard' in self-service analysis. Come see how you can take raw data and turn it into a polished dashboard in just minutes. This session will cover how to connect to data, create visualizations, build calculations, and create dashboards that are published to a secured, governed environment: Tableau Server.
Tableau for the Power Analyst	21 Aug – 06:00 PDT 21 Aug – 18:30 IST	This session will cover a selection of advanced techniques in Tableau Desktop that are focused on visualization best practices, performance optimization, and creative ways to use features in the product.
Extending Tableau with Advanced Analytics	29 Aug – 06:00 PDT 29 Aug – 18:30 IST	Tableau can make use of external scripts to drive to deeper insights in your data. Come see how to leverage Python/R/Matlab inside of Tableau so you (individually) can rapidly explore the results visually or deploy your trained models out to broader audiences to leverage them.

tableau

Use Cases and Users Groups Across WF

Wells Fargo History with Tableau | Wells Fargo's total lifetime Tableau spend is $14 Million | with Tableau being used in 227 groups across Wells Fargo | Top50… with the CRM Research being the largest | Empowered and diverse analyst community | and if you want to know these people are…

Broad consumption across Wells Fargo

Extending Tableau with Advanced Analytics

Dylan Lockman
Sales Consultant – SF Bay Area

Complimentary Strengths

Visual Analytics in Tableau

- Answer questions at the speed of thought
- Connect to data of many types from many places – live or extract
- Support analytical flow through visual feedback cycle
- Understand trends, relationships, and information in context
- Easily share and communicate insights

Advanced Analytical Languages

- Enrich data with machine learning libraries
- Perform heavy statistical testing
- Process and analyze text data
- Create and iterate on regression models

Tableau + Advanced Analytics

Design Objectives

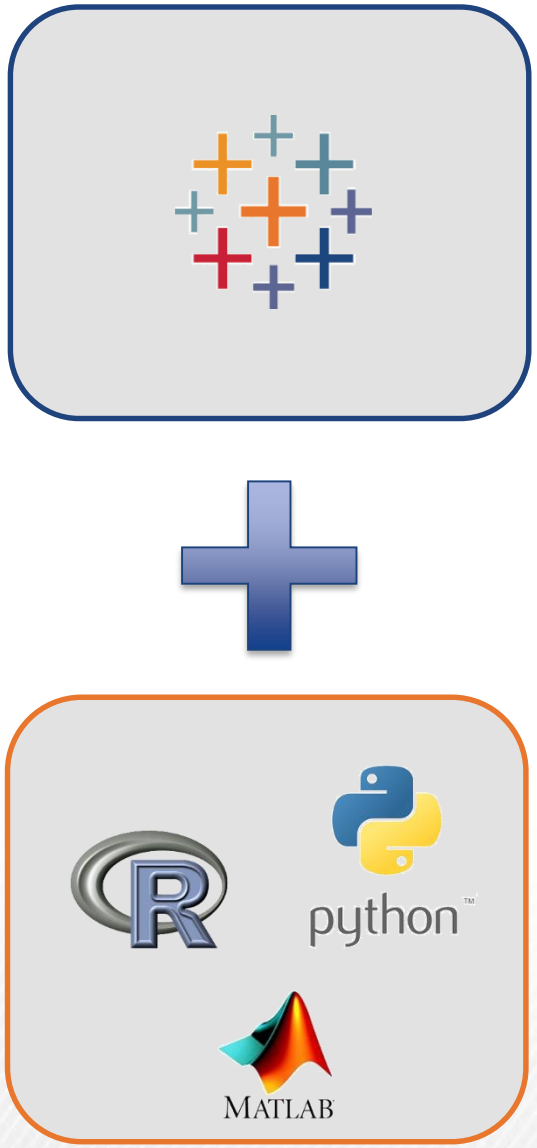
1. **Give Tableau users access** to a rich, ever-expanding collection of **statistical analysis** and **data mining libraries** to help them gain deeper insights from their data.

2. Bring Tableau's **fluid data exploration experience** and broad connectivity options to users in advanced analytical packages.

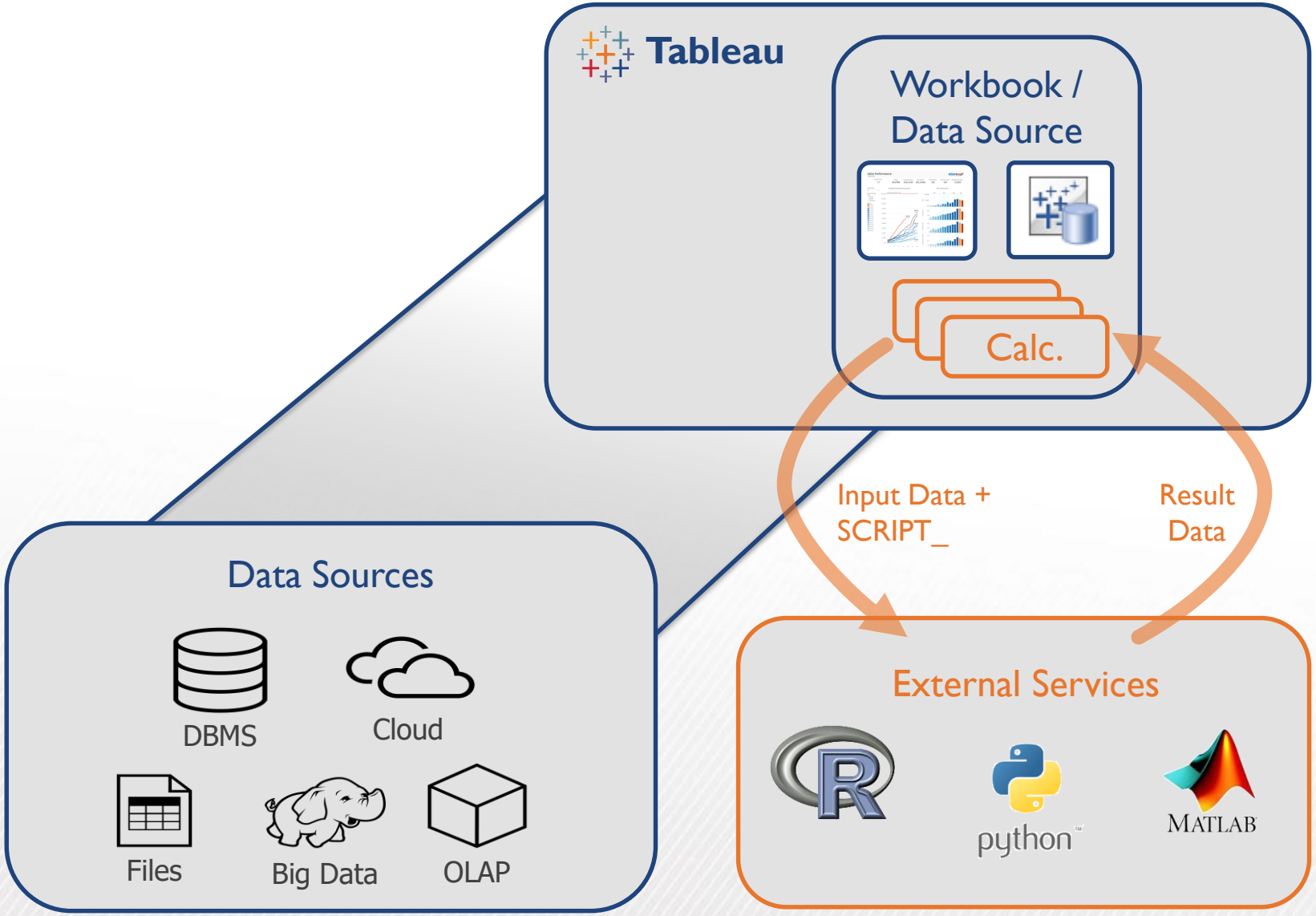
3. **Enable consumers** of Tableau worksheets and dashboards take advantage of advanced analytical packages, simply by interacting with the visualization or widgets **without the need to have any knowledge of the language**.

4. Tableau should be able to take advantage of **existing data science assets** (knowledge, code, etc.)

5. Provide a **consistent experience** for end users to consume information delivered through advanced analytic packages.

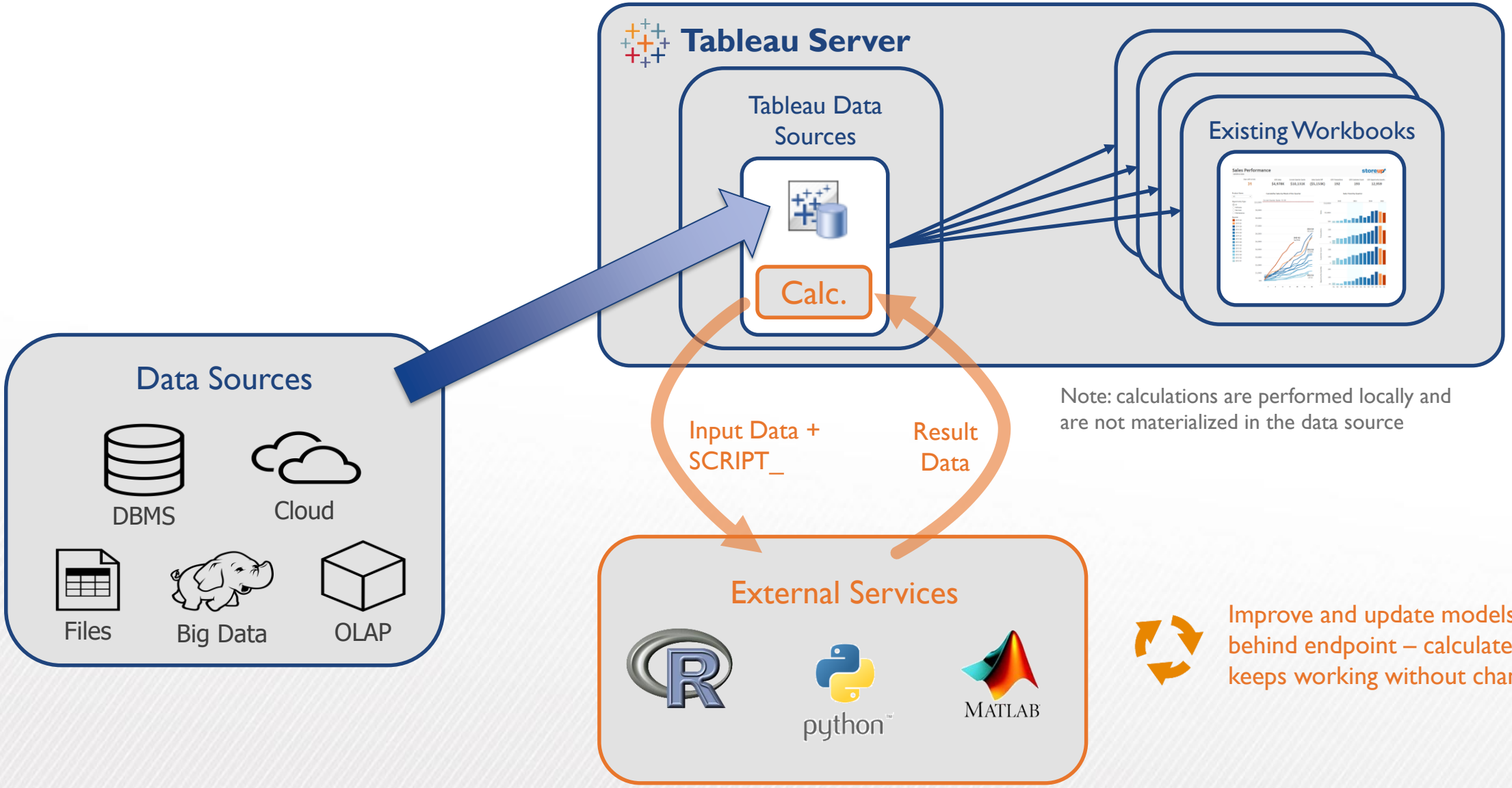


Process Overview



1. Tableau connects to data
2. Calculation in a Workbook or Data Source is defined using one of the *SCRIPT_* functions
3. Calculation makes call through external connection to service and passes columns of data
4. Data is processed by external service
5. Result data is returned from external service
6. Result data is displayed in a view as a table calculation
7. Calculation dynamically updates respecting filtering and table calculation addressing

Embedding Advanced Logic for Consumers

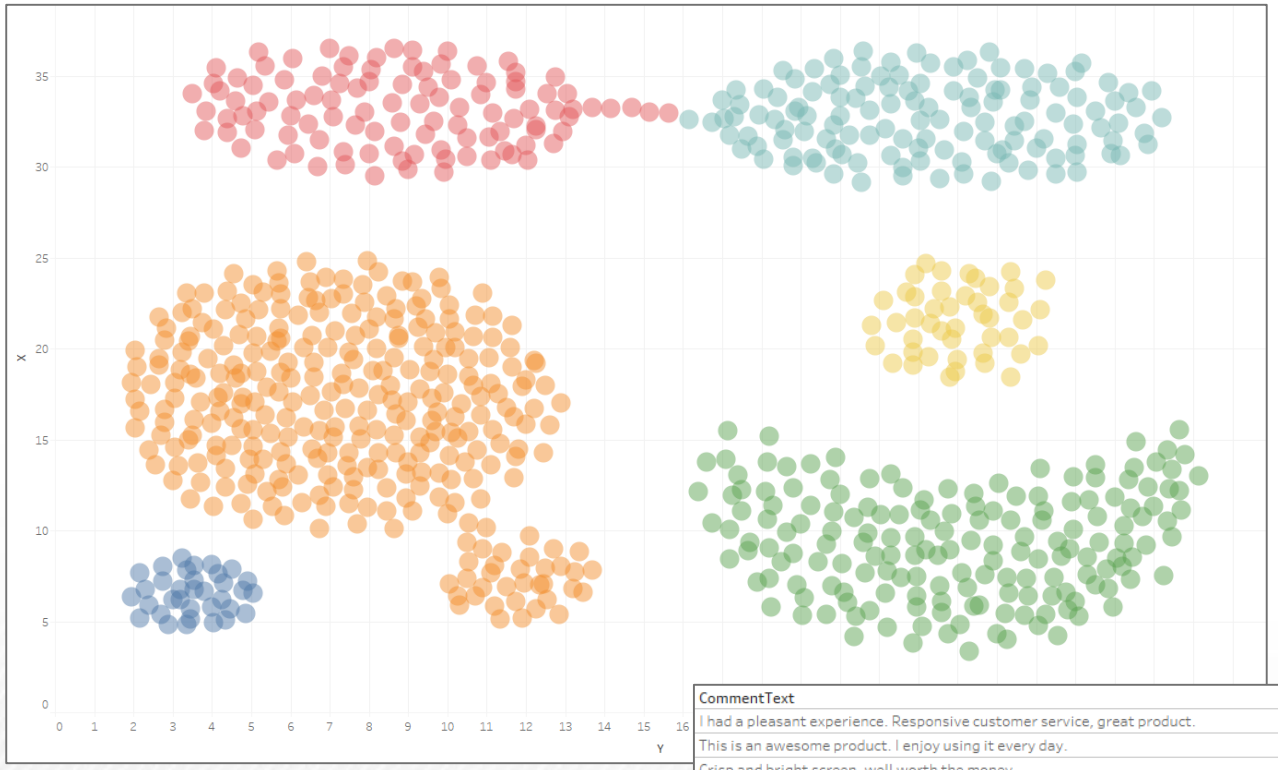


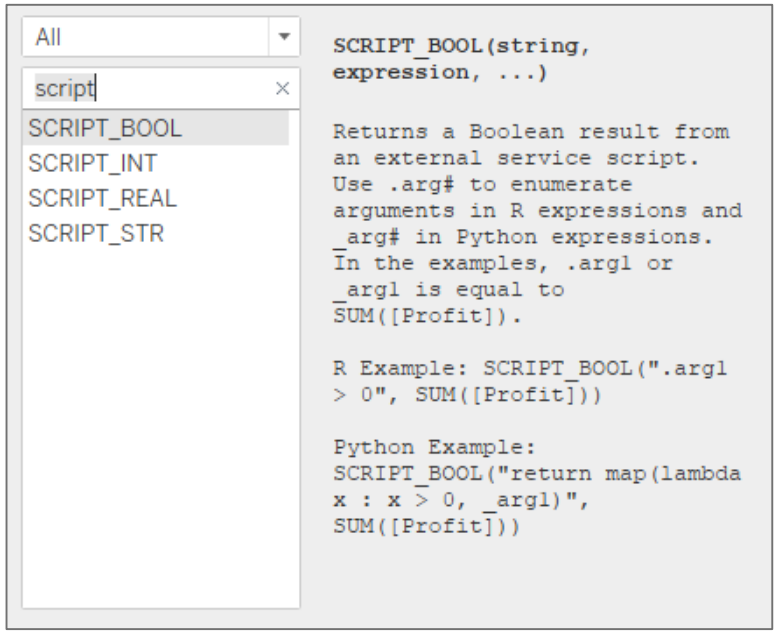
Note: calculations are performed locally and are not materialized in the data source

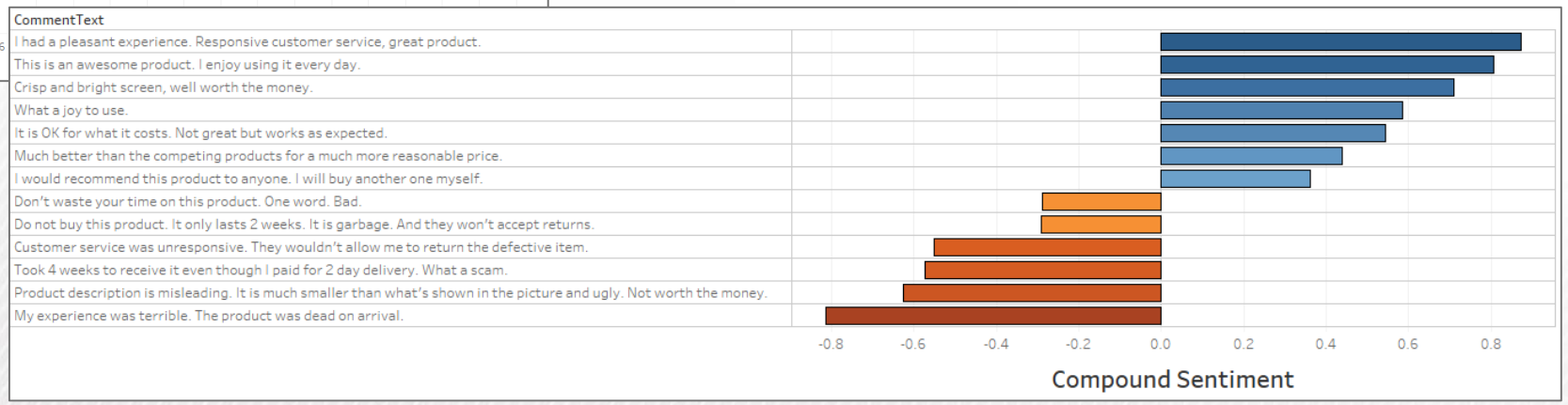
Improve and update models / code behind endpoint – calculated field keeps working without change

(setup instructions in appendix)

Demonstration

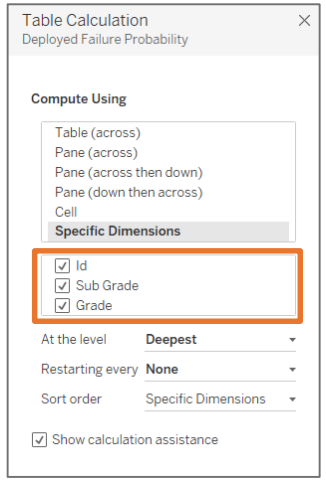


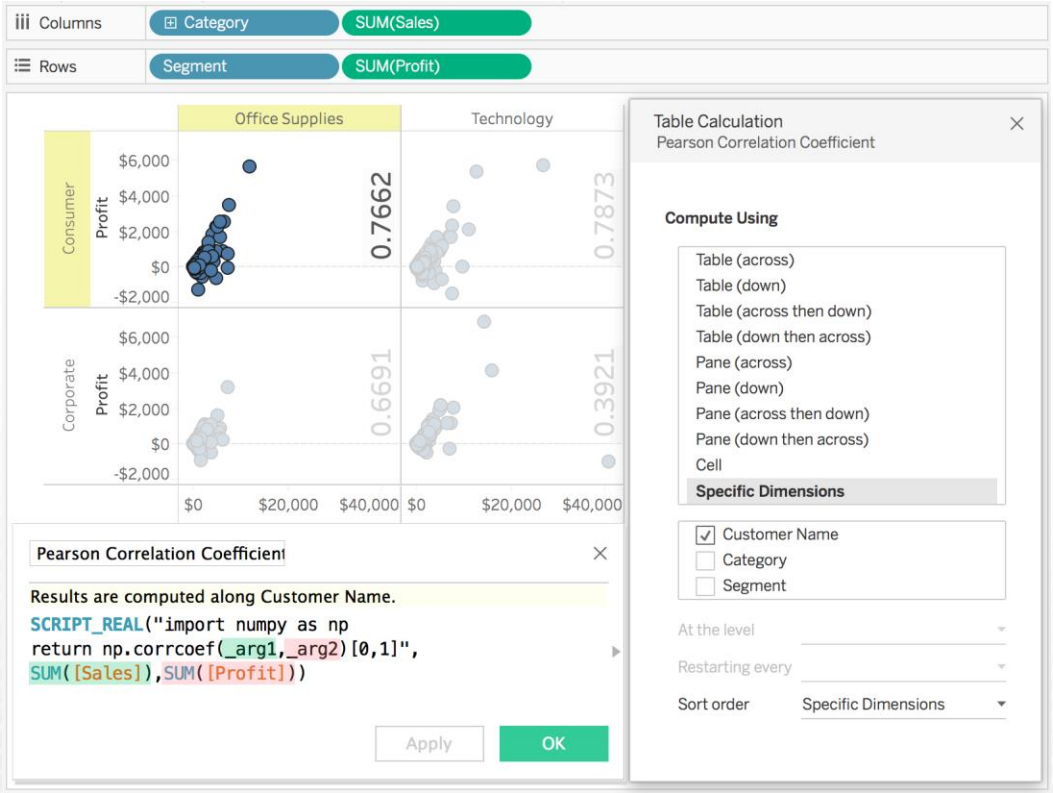




Things to consider…

- Each calculated field can only return 1 value for each input or constant
  - The number of data points returned must be equal to the number of marks in the view*
  - Will display an error if this is rule is violated
- External computations can only be presented as Table Calculations in Vizzes
  - Cannot persist data from the view unless it is exported
  - A separate call is made for each partition in the view
- Tableau can only support 1 external connection currently
  - Cannot process data with both R and Python in the same workbook
  - Tableau Server can only be configured to support a single R or Python server at any given time
- If latency for calc. processing times are high, consider pre-processing data before analyzing it in Tableau

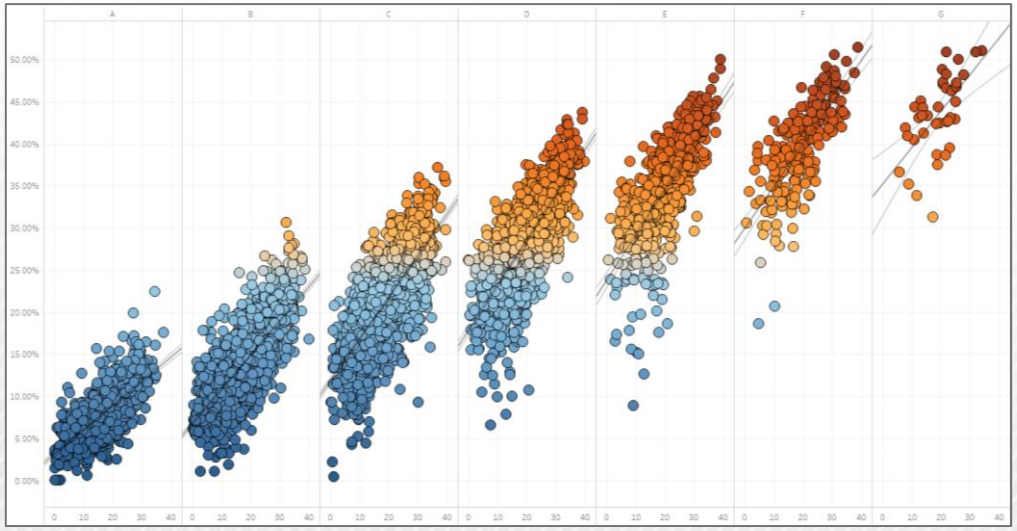




*TabPy can return array size of 1 or the same size as the input array

Extending Tableau with Advanced Analytics

- Enable broader audiences to use sophisticated models and statistics in decision-making
- Empower analytical package power-users to uncover more through fluid data exploration
- Enhance the OOTB function-library with available statistical libraries and centralized algorithms



Appendix

TabPy Setup

1. Make sure you are using Tableau 10.1 or higher
2. Make sure you are using Python 2.7 or higher
3. Download and Install TabPy
    1. Github
        1. github link
        2. Installation instructions
    2. Via Commandline
        1. *pip install tabpy-server*

R Connection Setup

1. Make sure you are using Tableau 8.1 or higher
2. Download Rserve (link)
3. Follow R connection instructions (link)