BATCH : TABLEAU 2024

LESSON : **Tableau ENG**

DATE : May 22.2024

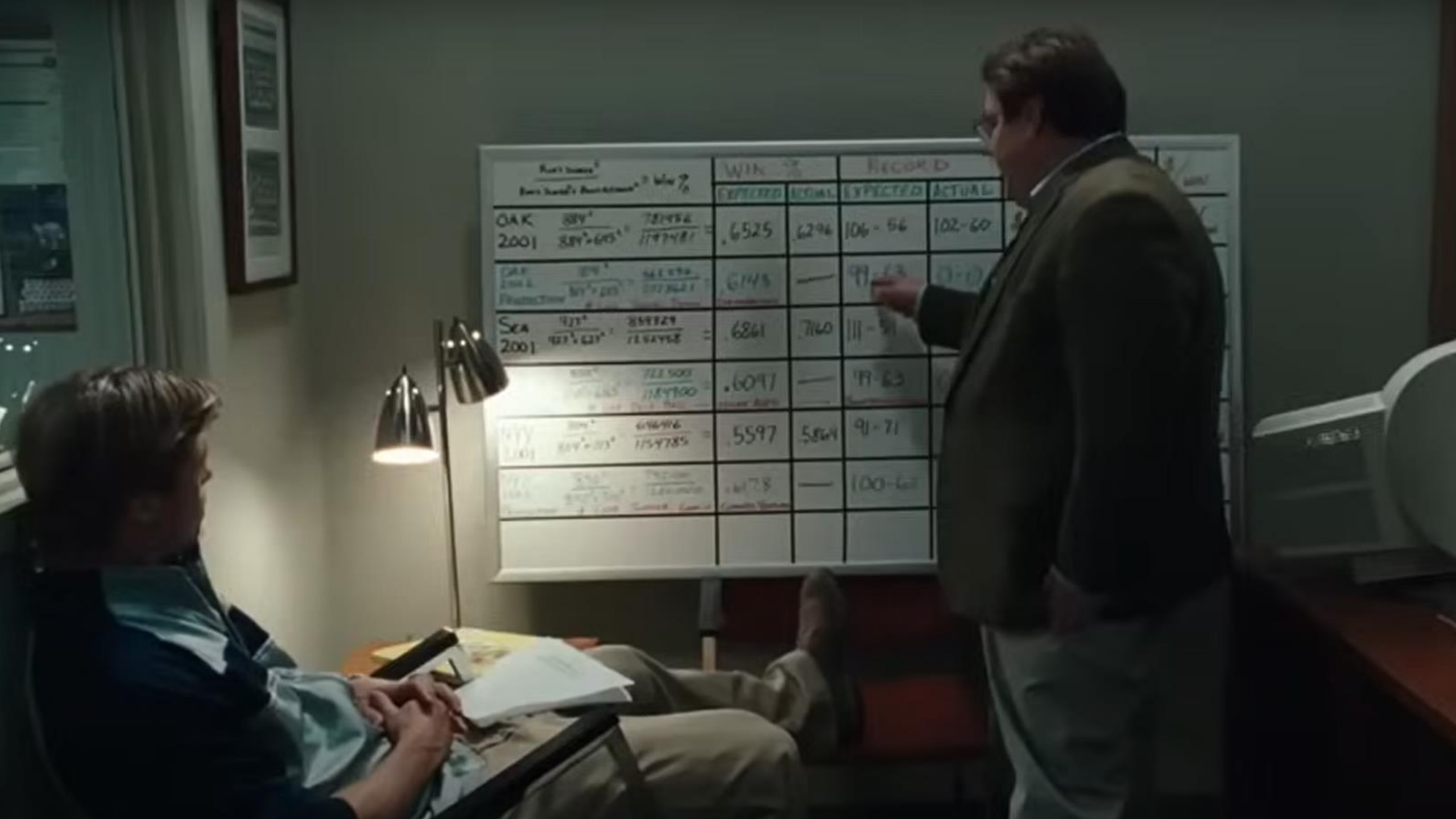
SUBJECT : **Introduction**

PLEASE USE **LMS** TO JOIN THE ZOOM MEETINGS

Data Visualization with Tableau

Salesforce Program


Athletics


WIN
RECORD
EXPECTED
ACTUAL
EXPECTED
ACTUAL
OAK
2001
.6525
.6296
106 - 56
102 - 60
SEA
2001
.6861
.7160
.6097
.5597
.5864
91 - 71

Tableau

Content

- Program Overall Content
- Introduction to Tableau Desktop
- Visual analytics
- Calculations
- Combining Table and Data
- Dashboard design

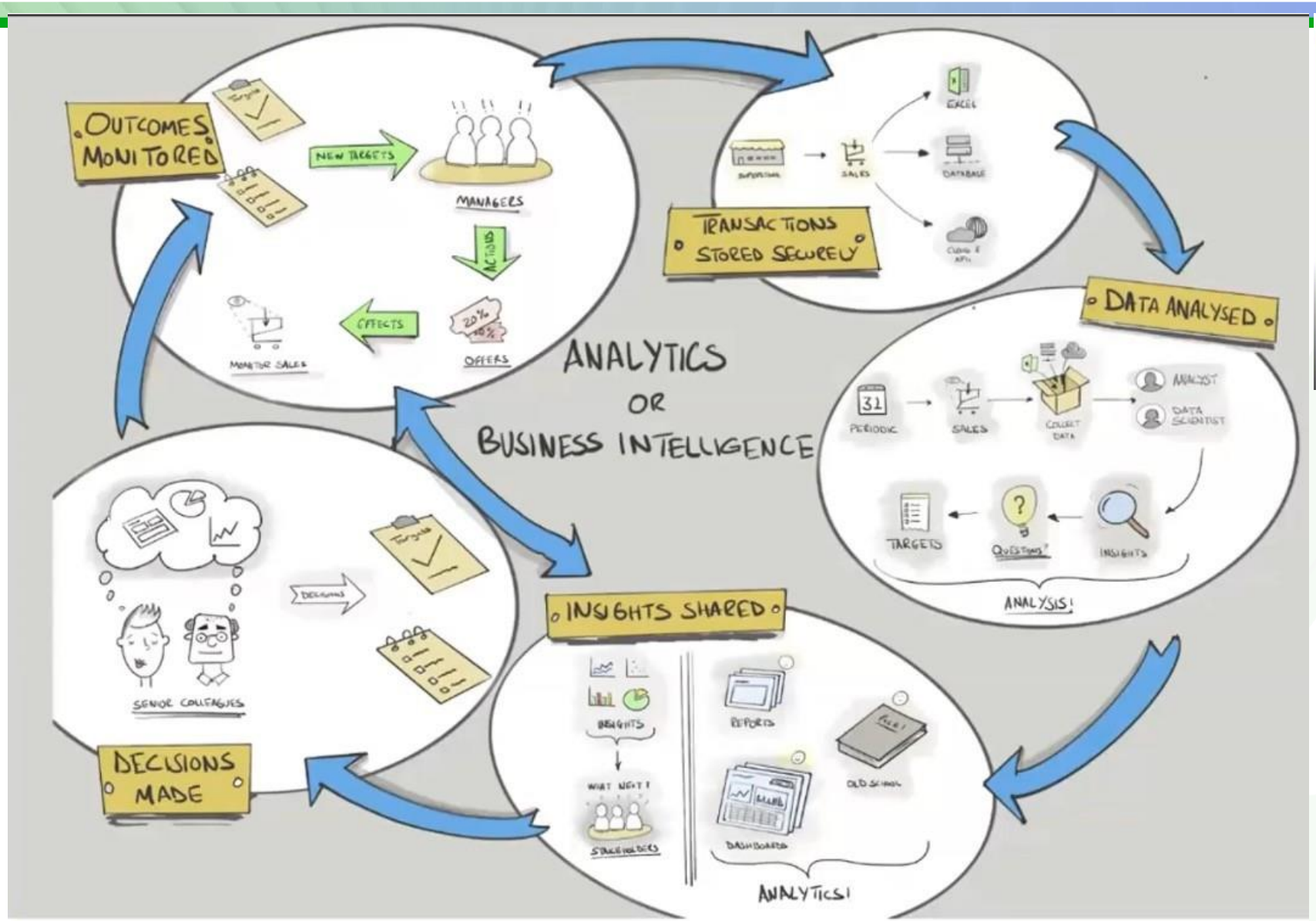
Project

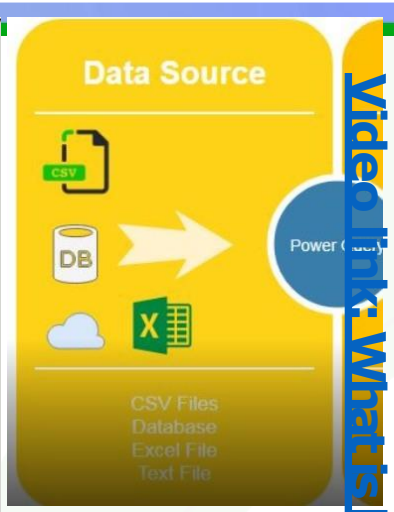
Materials

- PDF document and books
- Tableau Free Training Videos (Official Web Sites)

Are you familiar with any of the visualisation tools?

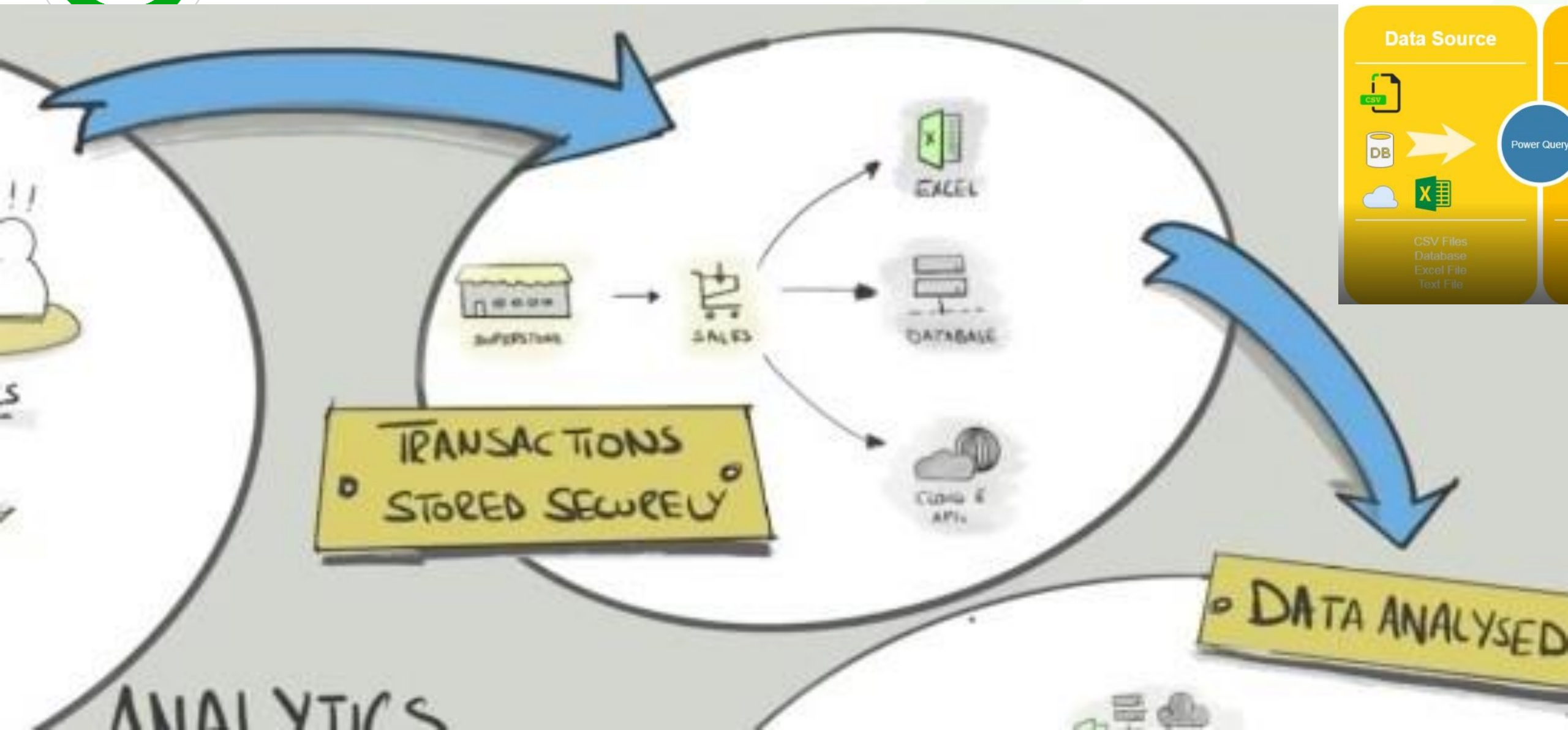
What is Business Intelligence (BI) ?





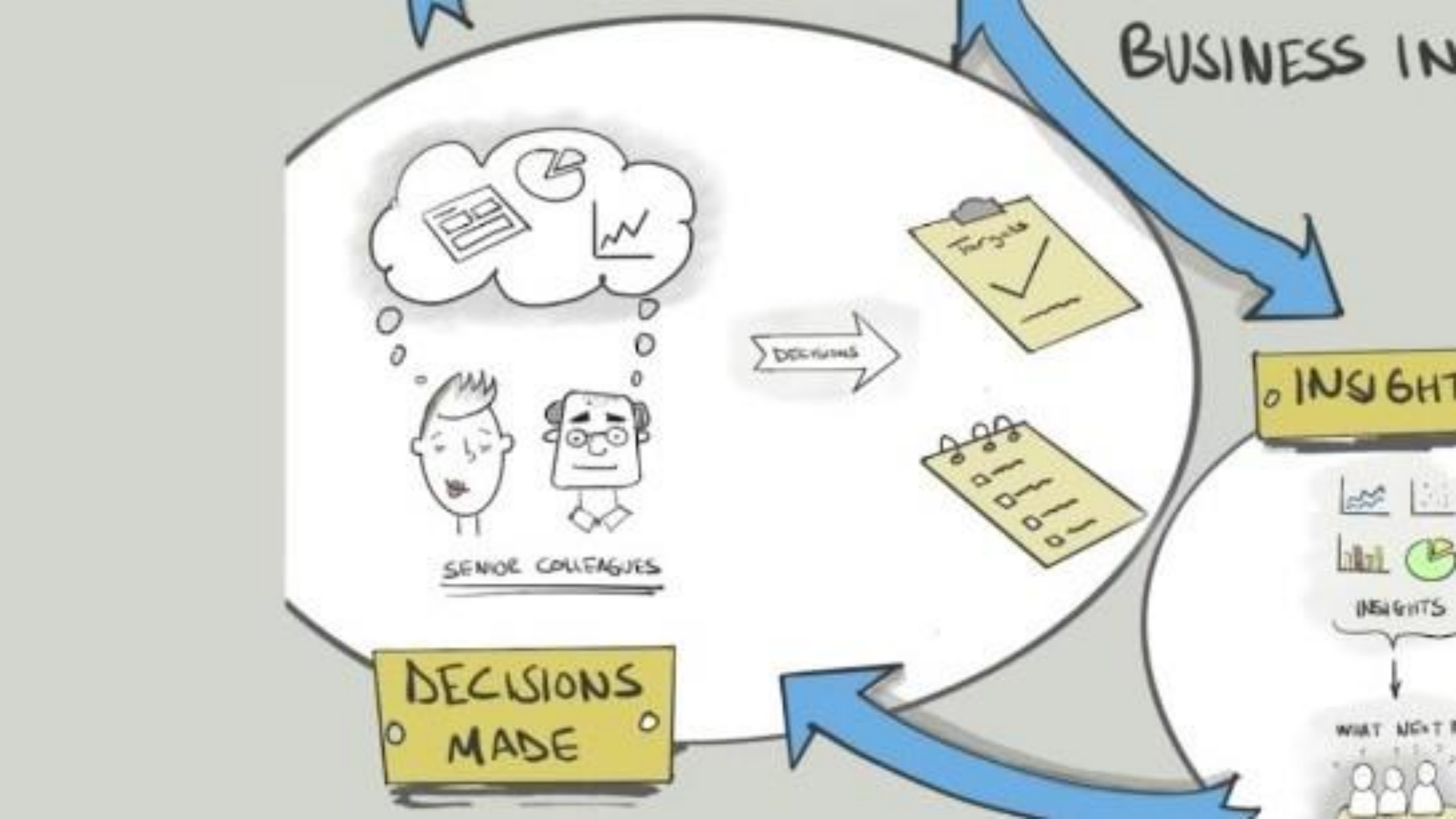
Video link: What is business intelligence.

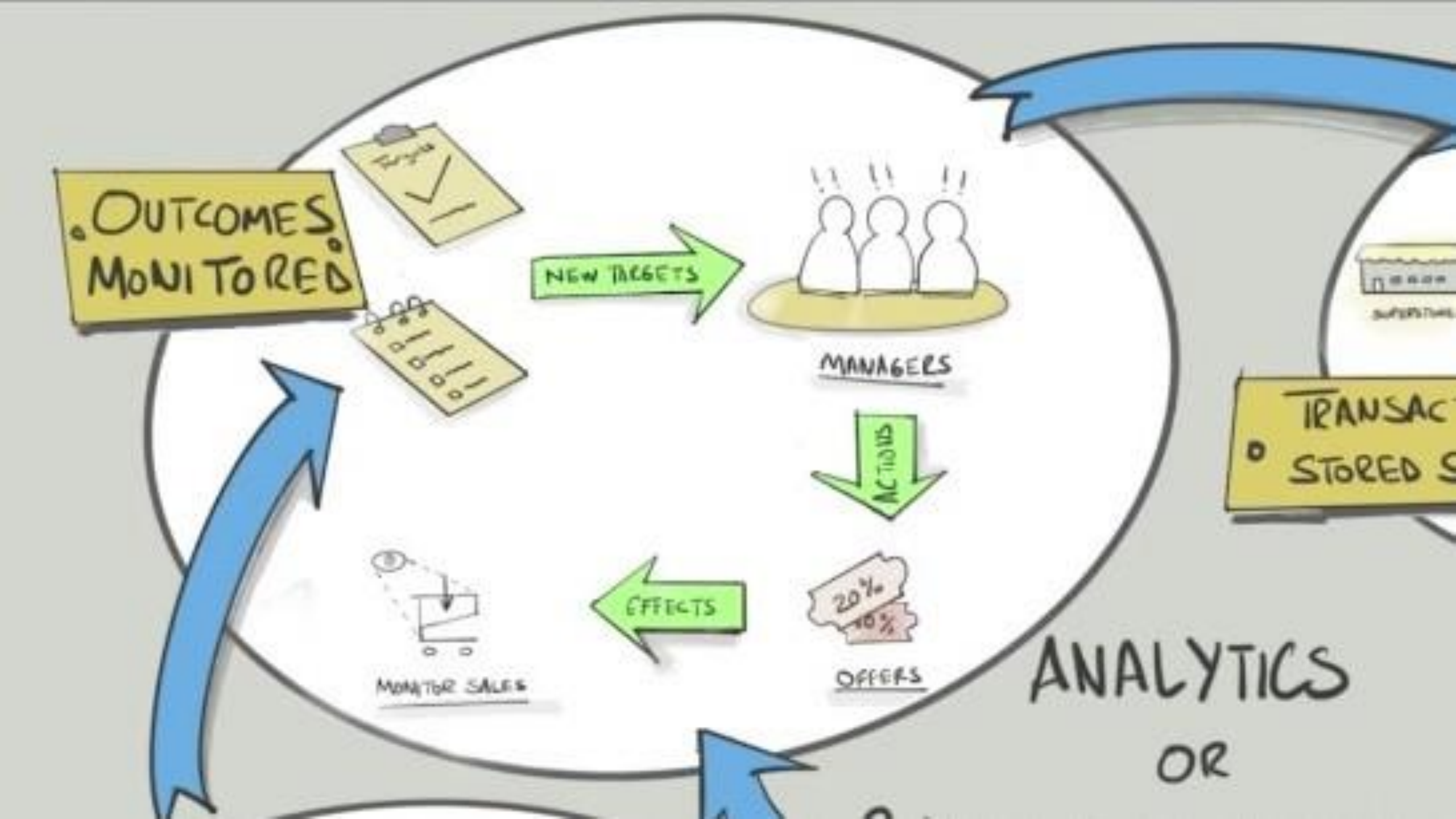
What is Business Intelligence (BI) ?

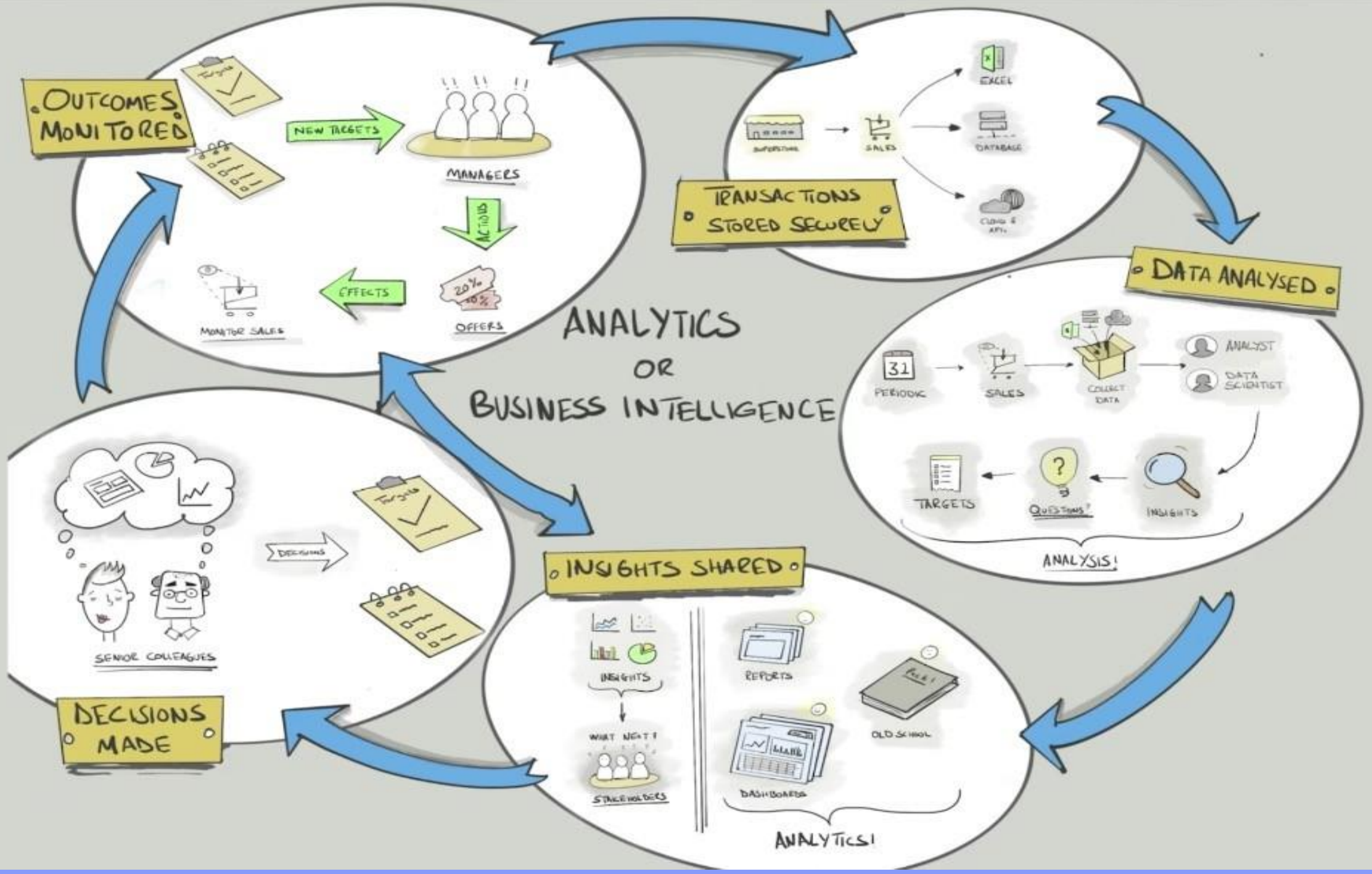



TRANSACTIONS
STORED SECURELY
DATA ANALYSED
LYTICS
OR
NTELLIGENCE
31
PERIODS
SALES
COLLECT DATA
ANALYST
DATA SCIENTIST
TARGETS
?
QUESTIONS?
INSIGHTS
ANALYSIS!
HTS SHARED


TARGETS
QUESTIONS?
ANALYSIS!
INSIGHTS SHARED
INSIGHTS
REPORTS
OLD SCHOOL
STAKEHOLDERS
DASHBOARDS
ANALYTICS!


BUSINESS IN
SENIOR COLLEAGUES
INSIGHT
INSIGHTS
DECISIONS MADE

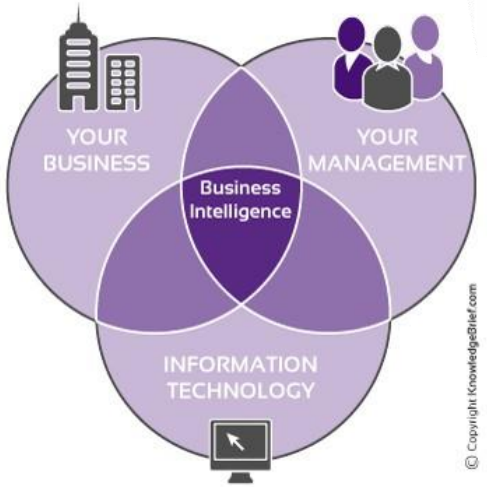

OUTCOMES MONITORED
NEW TARGETS
MANAGERS
ACTIONS
OFFERS
20%
10%
EFFECTS
MONITOR SALES
TRANSAC
STORED S
ANALYTICS
OR


OUTCOMES MONITORED
NEW TARGETS
MANAGERS
ACTIONS
OFFERS
EFFECTS
MONITOR SALES
TRANSACTIONS STORED SECURELY
EXCEL
DATABASE
SALES
DATA ANALYSED
PERIODIC
SALES
COLLECT DATA
ANALYST
DATA SCIENTIST
TARGETS
QUESTIONS
INSIGHTS
ANALYSIS!
ANALYTICS OR BUSINESS INTELLIGENCE
INSIGHTS SHARED
INSIGHTS
WHAT NEXT?
STAKEHOLDERS
REPORTS
OLD SCHOOL
DASHBOARDS
ANALYTICS!
DECISIONS MADE
SENIOR COLLEAGUES
DECISIONS

What is Business Intelligence (BI) ?

Advantages of BI

- Business decisions based on data
- Fast planning, reporting and analysis
- Increase in profit and income
- Increase in data quality
- Potential to increase employee satisfaction
- Advantage in competition



Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Na	Segment	Country	City	State	Postal Code	Region
1	CA-2016-152156	8.11.2016	11.11.2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South
2	CA-2016-152156	8.11.2016	11.11.2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South
3	CA-2016-138688	12.06.2016	16.06.2016	Second Class	DV-13045	Darrin Van H	Corporate	United States	Los Angeles	California	90036	West
4	US-2015-108966	11.10.2015	18.10.2015	Standard Class	SO-20335	Sean O'Donn	Consumer	United States	Fort Lauderda	Florida	33311	South
5	US-2015-108966	11.10.2015	18.10.2015	Standard Class	SO-20335	Sean O'Donn	Consumer	United States	Fort Lauderda	Florida	33311	South
6	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
7	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
8	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
9	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
10	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
11	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
12	CA-2014-115812	9.06.2014	14.06.2014	Standard Class	BH-11710	Brosina Hoffr	Consumer	United States	Los Angeles	California	90032	West
13	CA-2017-114412	15.04.2017	20.04.2017	Standard Class	AA-10480	Andrew Allen	Consumer	United States	Concord	North Carolin	28027	South
14	CA-2016-161389	5.12.2016	10.12.2016	Standard Class	IM-15070	Irene Maddox	Consumer	United States	Seattle	Washington	98103	West
15	US-2015-118983	22.11.2015	26.11.2015	Standard Class	HP-14815	Harold Pawla	Home Office	United States	Fort Worth	Texas	76106	Central
16	US-2015-118983	22.11.2015	26.11.2015	Standard Class	HP-14815	Harold Pawla	Home Office	United States	Fort Worth	Texas	76106	Central
17	CA-2014-105893	11.11.2014	18.11.2014	Standard Class	PK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central
18	CA-2014-167164	13.05.2014	15.05.2014	Second Class	AG-10270	Alejandro Gr	Consumer	United States	West Jordan	Utah	84084	West
19	CA-2014-143336	27.08.2014	1.09.2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisc	California	94109	West
20	CA-2014-143336	27.08.2014	1.09.2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisc	California	94109	West
21	CA-2014-143336	27.08.2014	1.09.2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisc	California	94109	West
22	CA-2016-137330	9.12.2016	13.12.2016	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central
23	CA-2016-137330	9.12.2016	13.12.2016	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central
24	US-2017-156909	16.07.2017	18.07.2017	Second Class	SF-20065	Sandra Flana	Consumer	United States	Philadelphia	Pennsylvania	19140	East
25	CA-2015-106320	25.09.2015	30.09.2015	Standard Class	EB-13870	Emily Burns	Consumer	United States	Orem	Utah	84057	West
26	CA-2016-121755	16.01.2016	20.01.2016	Second Class	EH-13945	Eric Hoffman	Consumer	United States	Los Angeles	California	90049	West
27	CA-2016-121755	16.01.2016	20.01.2016	Second Class	EH-13945	Eric Hoffman	Consumer	United States	Los Angeles	California	90049	West
28	US-2015-150630	17.09.2015	21.09.2015	Standard Class	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East
29	US-2015-150630	17.09.2015	21.09.2015	Standard Class	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East
30	US-2015-150630	17.09.2015	21.09.2015	Standard Class	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East
31	US-2015-150630	17.09.2015	21.09.2015	Standard Class	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East

PO USD by QTR

Click on a quarter, Subsidiary, or Vendor to highlight by that dimension.

	Q1	Q2	Q3	Q4	Grand Total
JAM North Ameri..	$9,872,703	$7,535,599	$10,543,183	$13,680,679	$41,632,164
JAM Pacific L.T.T.	$3,974,993	$5,349,496	$10,383,327	$12,501,377	$32,209,193
JAM South Ameri..	$4,241,597	$6,920,526	$11,776,425	$7,864,811	$30,803,359
JAM GmbH & Co ..	$1,266,937	$2,355,285	$4,500,223	$2,658,363	$10,780,808
Grand Total	$19,356,230	$22,160,906	$37,203,158	$36,705,229	$115,425,524

Avg. Discount **9.30%**

Avg. POs per Month **498**

Avg. Discount USD **$804**

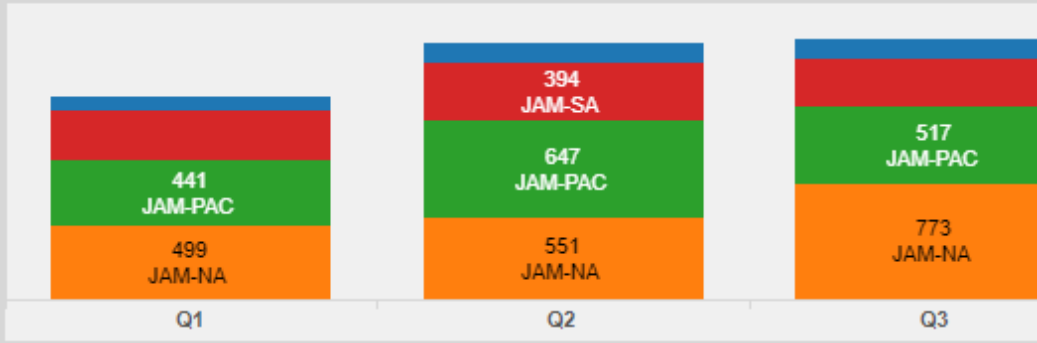
Avg. PO USD **$8,566**

Click here to learn more about Tableau for Finance A

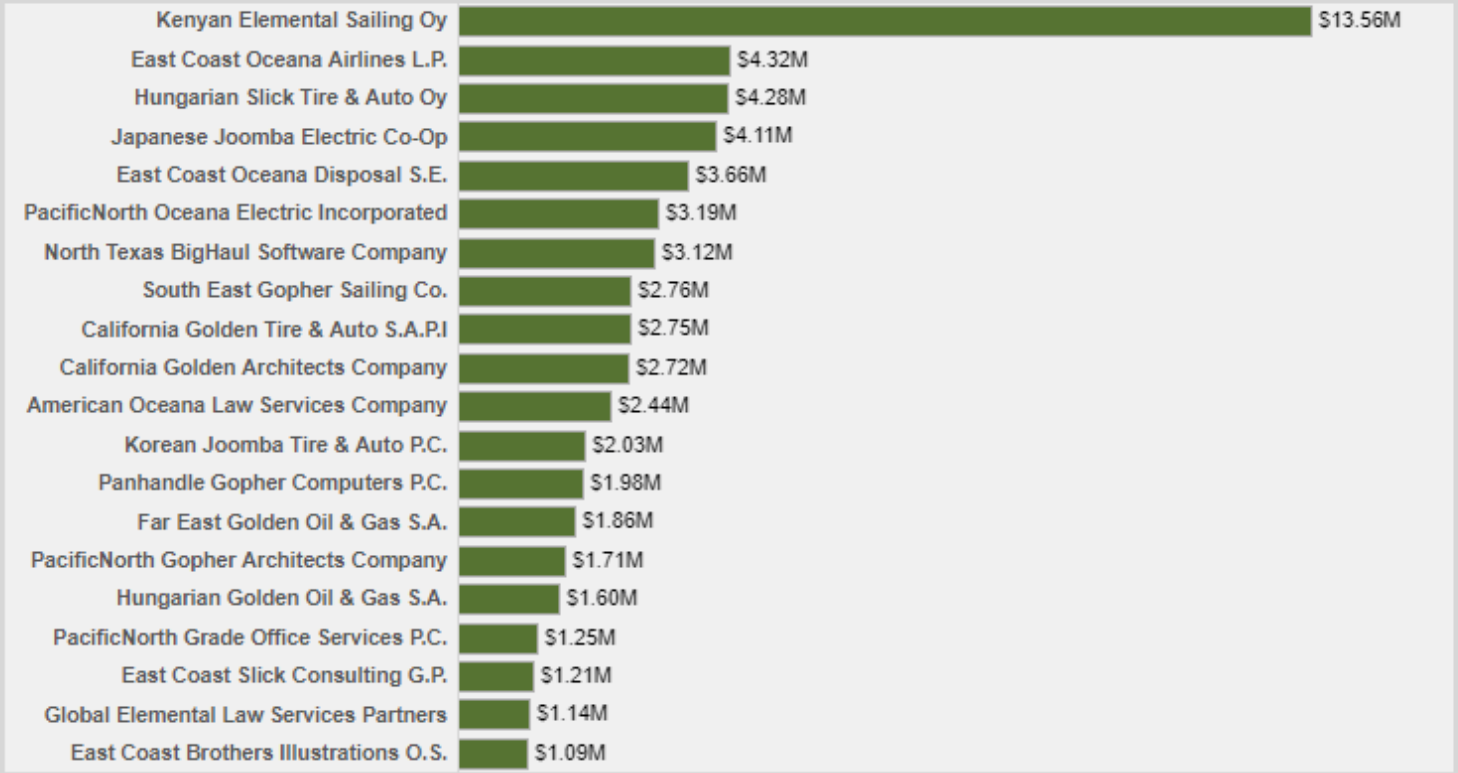
Year of Derived Received by Date

2014

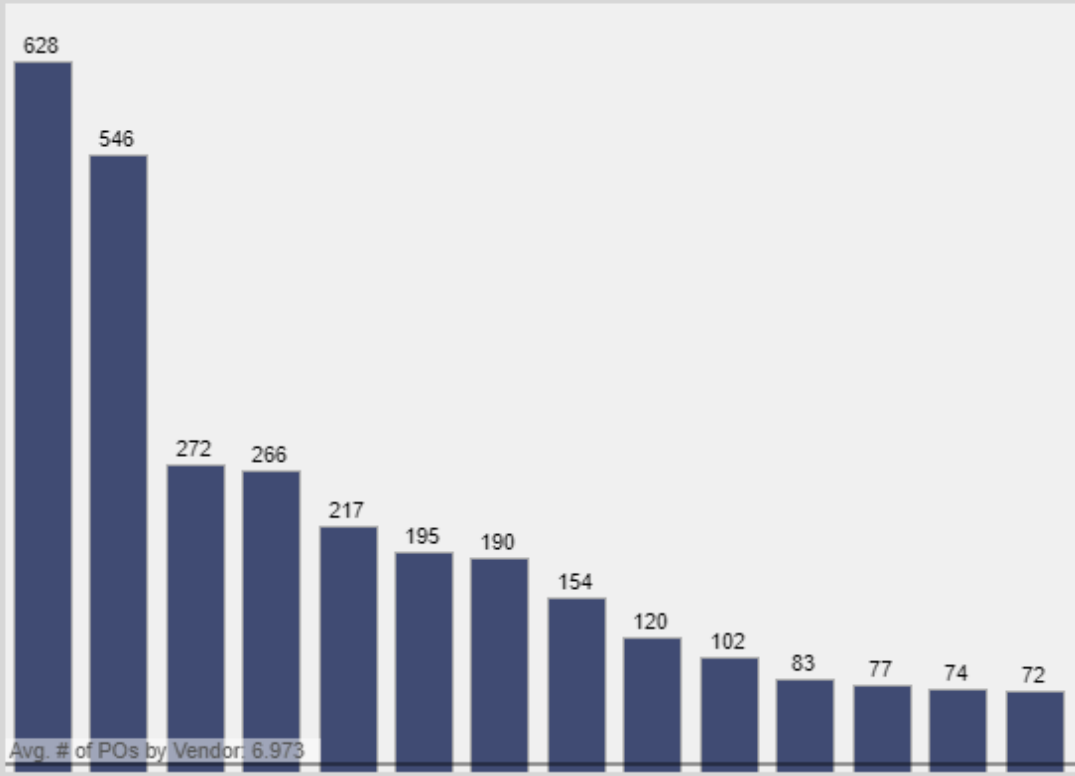
PO Count by QTR



Top 20 Vendors by USD



Top 20 Vendors by PO Count

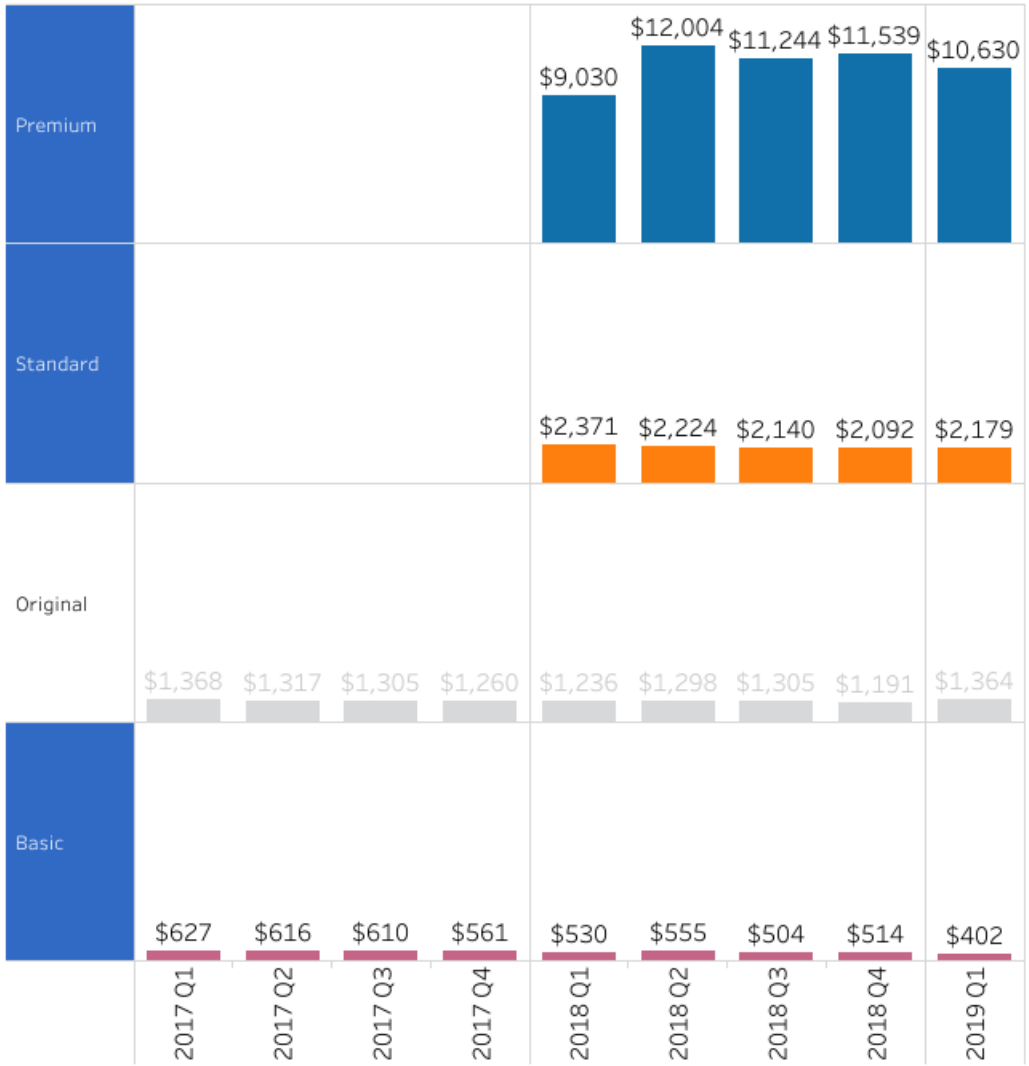


Average Selling Price Analysis by Product

*hover over blue icon to right for more info about this dashboard
**click white icon above to hide/show dashboard legends and filters

Click here to learn more about Tableau for Finance Analytics

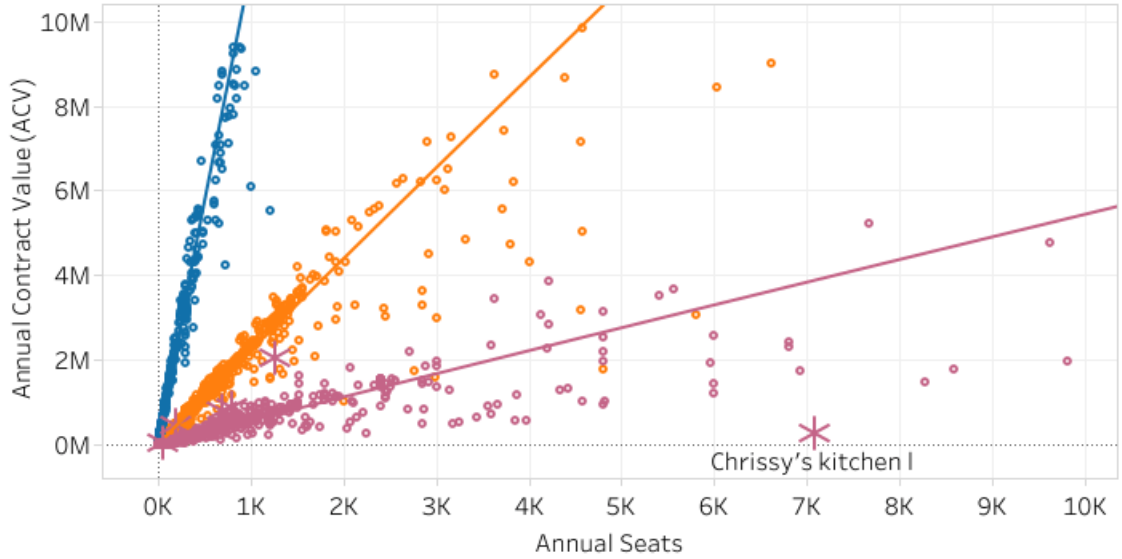
Annualized Average Selling Price (ASP) by Offering (select to filter and show clusters)



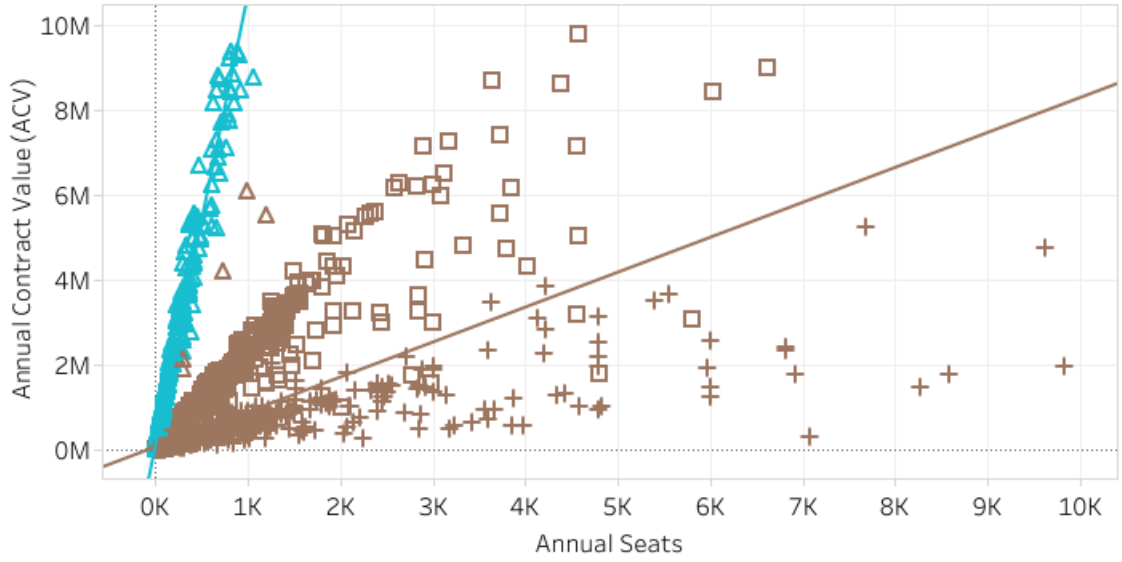
Segment
All

Region
All

Annual Contract Value and Quantities by Offering



Clusters: All



Date
01/01/2017 to 03/31/2019 and Null values

Max Annual Seats
10,000

Max Annual Contract Value
$10,000,000

Product Group Outlier
○ False
✱ True

ASP Outlier % Limit
90%

Label Seat Outliers Greater Than:
2,500

Label ACV Outliers Greater Than:
2,500,000

Label Outlier Logic (Seats AND/OR ACV)
OR

Clusters
Cluster 1
Cluster 2

BI Process

BI Process

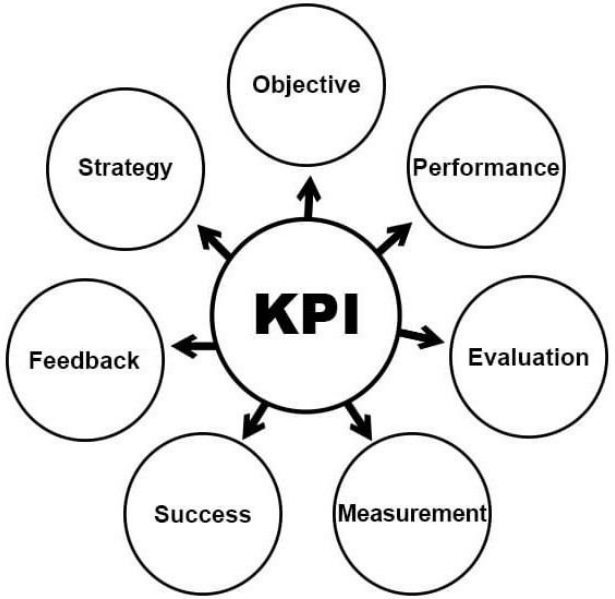
- Data mining
- Reporting
- Performance evaluation and comparison
- Descriptive analytics
- Investigation
- Statistical analysis
- Data screening
- Visual analysis/data visualisation
- Data preparation

- BI (Business Intelligence) tools typically consists of
  - Databases: Store/query data
  - ETL(Extract Transform and Load) tools: Migrate, manipulate and transform data
  - Data visualization: Understanding and reporting on data
- Companies spend millions of dollars in BI tools every year
- Ideally, these tools must be suitable for non-technical users to master, connect to a wide variety of datasources and provide guidance for rendering the data into useful insights

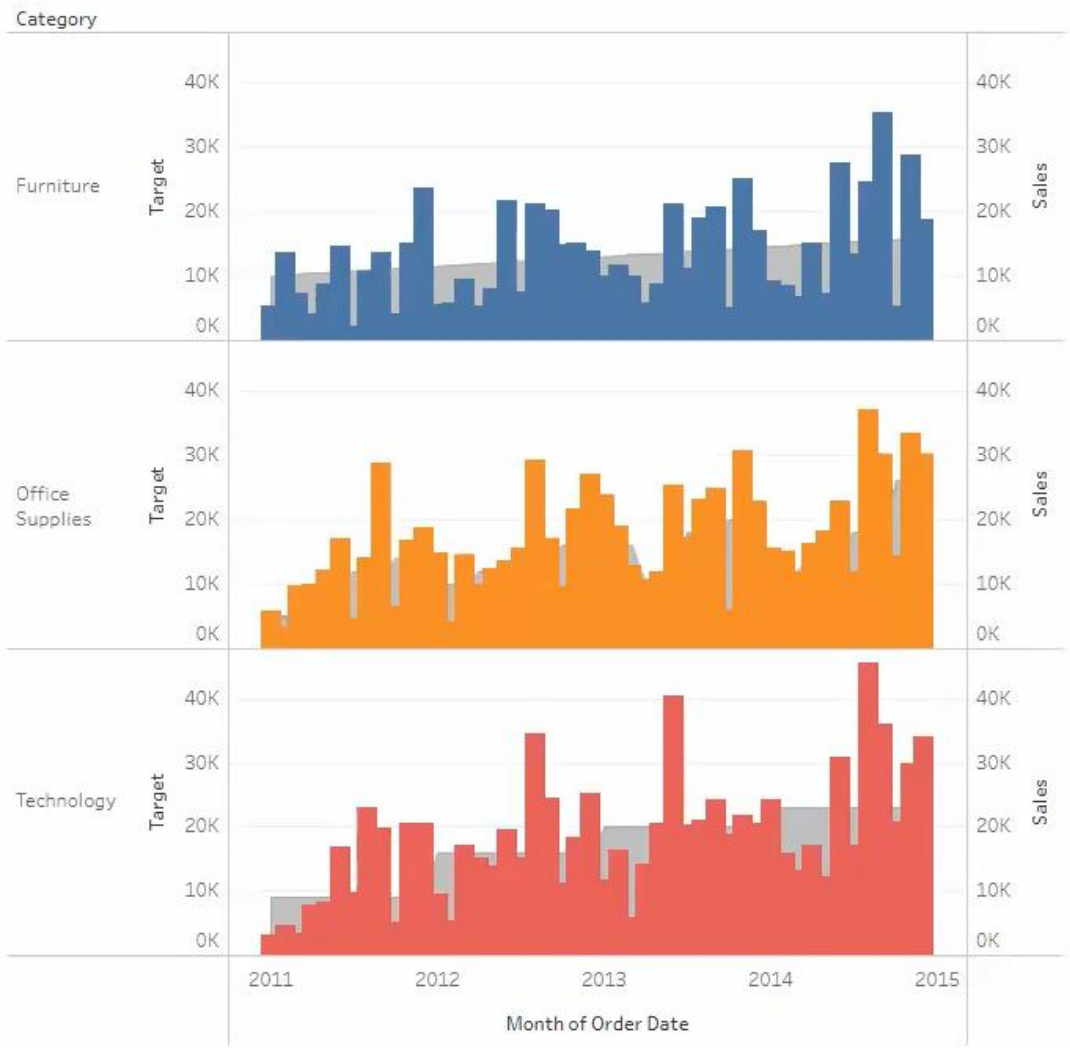
What is KPI?

KPI – Key Performance Indicator

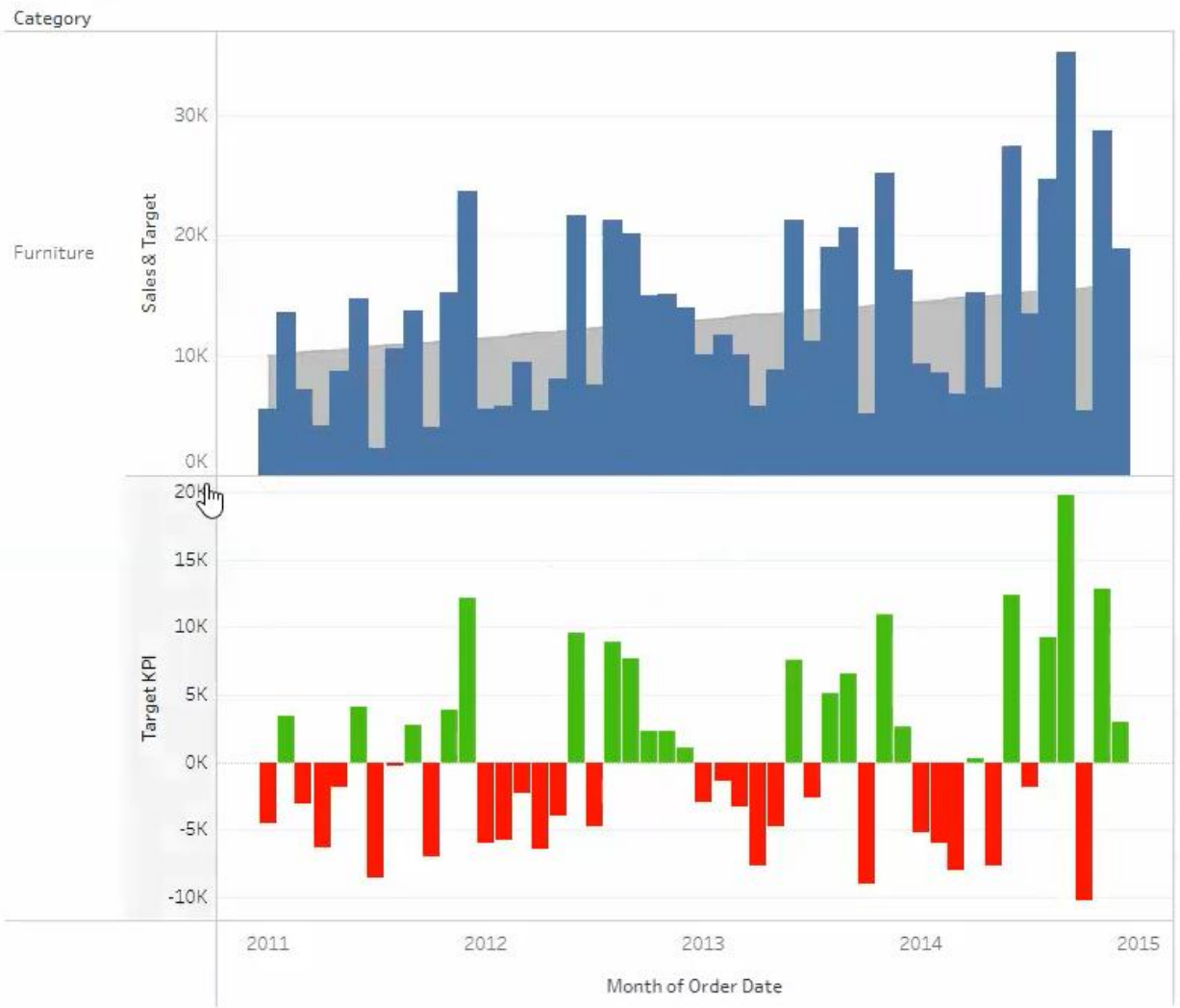
- How much did your income increase this month?
- How does our website perform?
- How is the impacts of the new campaign?
- Which of the social media platforms has the most interaction?
- How is the results of periodical comparison?



KPI Overall



KPI by numbers



Category
- Furniture
- Office Supplies
- Technology

tableau

KPI metrics dashboard to measure automation performance in customer support

The following slide outlines a comprehensive KPI dashboard which can be used by the organization to measure the automation performance in customer support department. It covers kpis such as customer retention, costs per support, customer satisfaction, etc.

84% Request Answered 2022

1.03M Total Requests 2022

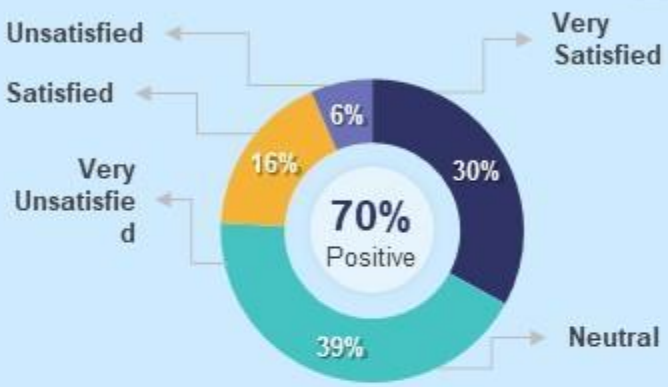
$73MM Total Revenue 2022

8% Support Costs to Revenue

Request Volume Vs. Service Level

Revenue and % of Support Costs to Revenue

Customer Satisfaction



Customer Retention

Cost per Support

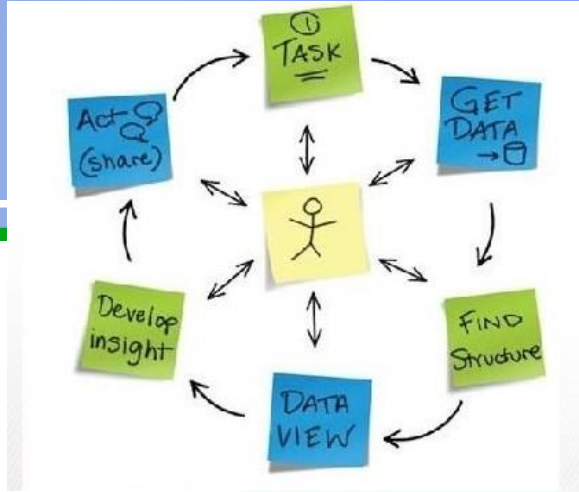
Avg Time to Solve an Issue

This graph/chart is linked to excel, and changes automatically based on data. Just left click on it and select "Edit Data".

KPI's..

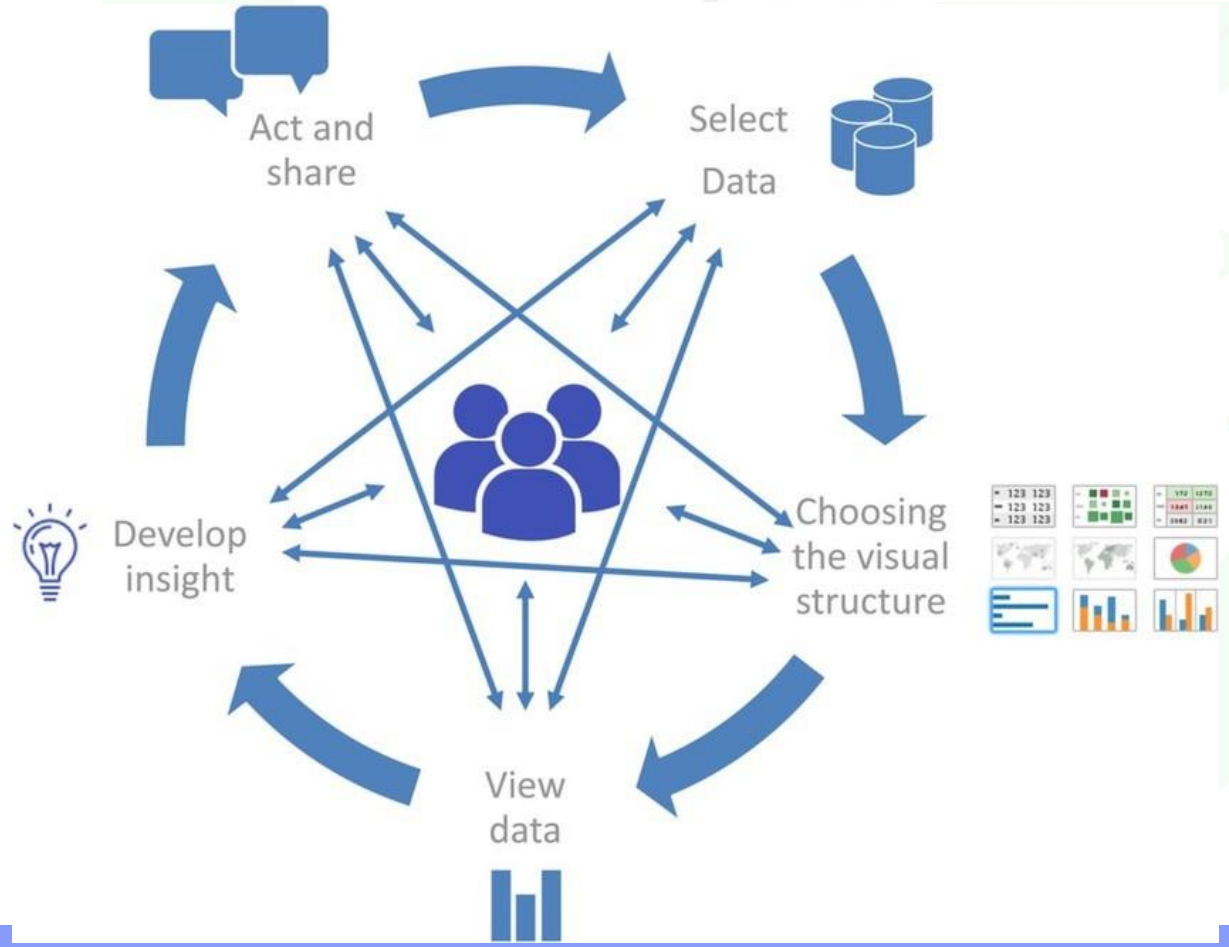
- About financial performance
- About customers
- About marketing performance
- Used in operational performance evaluation
- About employee performance
- About environmental and social sustainability

Visual Analysis



Starting to Tableau

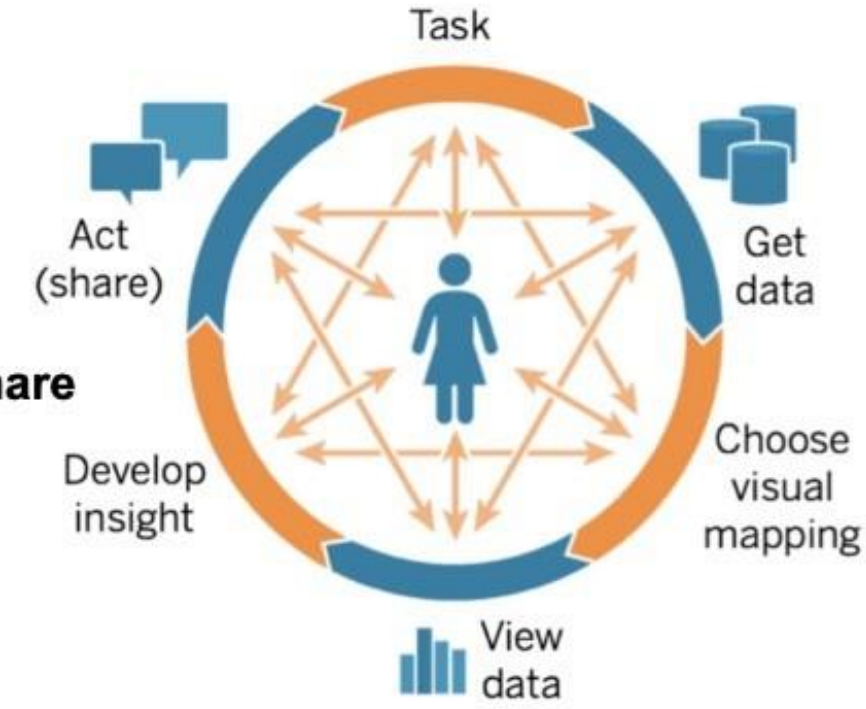
- Task generate
- Get Data
- Find Structure
- View Data
- Develop Insight
- Act and Share
- Task



Visual Analysis

Visual Analytics

- **What is Visual Analytics?**
- **Visual analytics is a means of exploring and understanding data**
- **A story unfolds from one visual summary to another**
- **Visual analysis is a non-linear process**
- **Later, you can retrace the story to rethink, explore further, and share**
- **Tableau supports and accelerates this analysis process**



Data Visualization Tools

	Power BI	Tableau	Qlik Sense	ThoughtSpot	Looker
Full-featured Free Version	Yes	Separate tool	Separate tool	No	No
Development Environment	Desktop	Desktop	Web Browser	Implementation	Cloud
R and Python Supported	Yes	Yes	Yes	R Only	Yes
Dynamic Cross-filtering	Yes	Yes	Yes	No	No
AI-enabled Analytics	Yes	Yes	Yes	Yes	No
Search Analytics with NLP	Yes	Yes	Yes	Yes	No
Data Prep Tools	Yes	Separate tool	Separate tool	Yes	No
Data Modeling Tools	Yes	Separate tool	Yes	Yes	Yes
Preferred Data Model	Star-schema	Flat	Snowflake	Star-schema	Flat
Database Independent	Yes	Yes	Yes	Yes	No
Built in Row Level Security	Yes	Yes	Yes	No	No
Mixed Model Types	Yes	No	No	Yes	No
Third-party Data Model Access	Yes	No	No	No	No
Commenting & Collaboration	Yes	Yes	Yes	Yes	No
Embedded Analytics	Yes	Yes	Yes	Yes	Yes
Open-source Custom Visualizations	Yes	No	Yes	No	Yes
Native Mobile App	Yes	Yes	Yes	Yes	No

tableau® CERTIFIED

Microsoft Power BI

Looker

Qlik Sense

ThoughtSpot

Tableau vs. Power BI

Feature	Power BI	Tableau
Date Established	2013	2003
Best Use Case	Dashboards	Ad-hoc Analysis
Best Users	Average Joe/Jane	Analysts
Licensing	Rigid	Flexible
Investment Required	Low	High
Overall Functionality	Very Good	Very Very Good
Performance With Large Datasets	Good	Very Good
Support Level	Low (Or through partner)	High
Infrastructure	SaaS only	Any
Get Started	Buy Now	Free Trial

Parameters	Power BI	Tableau
Parent Company	Microsoft	Salesforce
Establishment Year	2013	2003
Learning Curve	Very easy	Little steep
Pricing	Cost-effective	Costly
Usability	Small, medium, and large enterprises	Especially large enterprises
UI	Familiar to Microsoft products	Intuitive and easy-to-use
Security	Raw-level security and roles restriction	Offers raw-level security and set up filters
Underlying language	DAX (Data Analysis Expression)	MDX (Multidimensional Expressions)
Performance	Rich in data visualization, integration, and manipulation	Hypothetical visualization, ad-hoc analysis, capable to handle a huge volume of datasets
Installation	Easy to set up and start	Easy and quick

Visualization Realities

COLOR HUE

ORIENTATION

TEXTURE

POSITION & ALIGNMENT

COLOR BRIGHTNESS

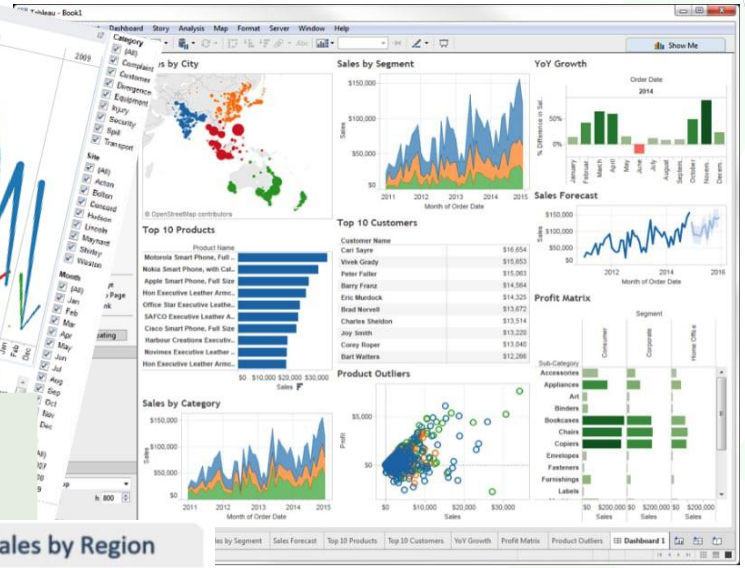
COLOR SATURATION

SIZE

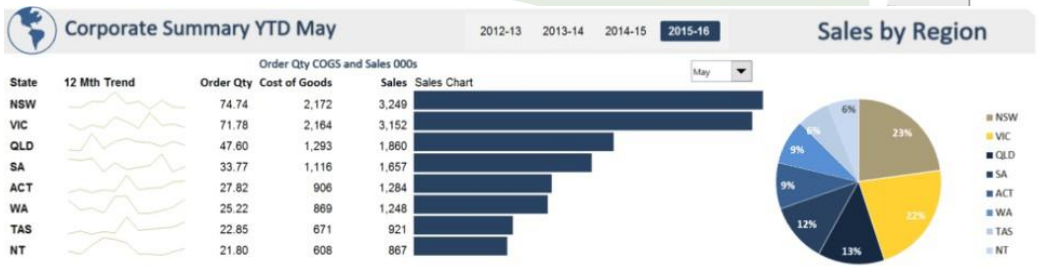
SHAPE

Why Tableau

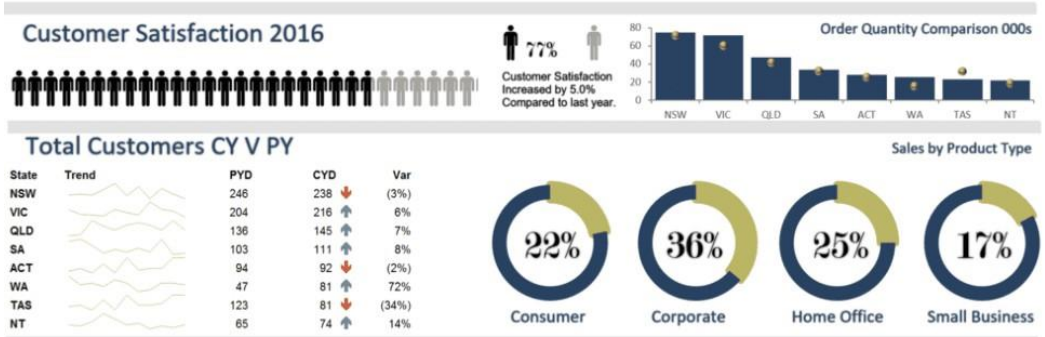

Category
Cause
Month
Site
Trend
Severity

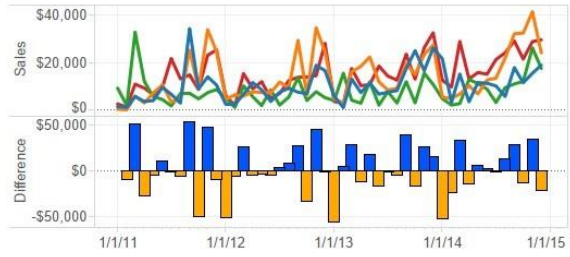

Sales by City
Sales by Segment
YoY Growth
Top 10 Products
Top 10 Customers
Sales Forecast
Profit Matrix
Sales by Category
Product Outliers

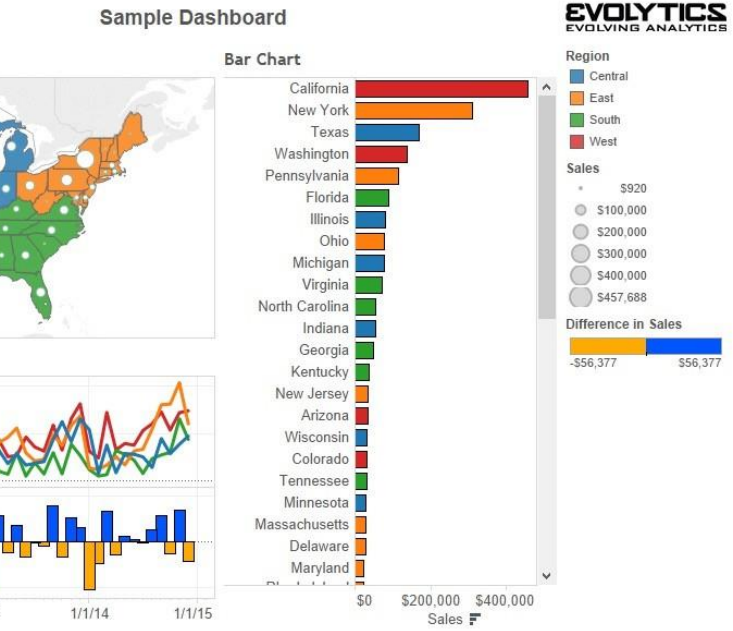

CFO Dashboard
60-day Cash Flow Projection
Revenue YoY
Gross Profit
EBITDA
Admin
Mkt
Opex
Inventory Assets
Avg Invoice Amt Trend
Orders to Ship: $2.802K
Hot New Opportunities: $4,045K
AR Aging: $4,971K
Website Visits
Revenue Mix


Corporate Summary YTD May
2012-13
2013-14
2014-15
2015-16
Order Qty COGS and Sales 000s
State
12 Mth Trend
Order Qty
Cost of Goods
Sales
Sales Chart
NSW 74.74 2,172 3,249
VIC 71.78 2,164 3,152
QLD 47.60 1,293 1,860
SA 33.77 1,116 1,657
ACT 27.82 906 1,284
WA 25.22 869 1,248
TAS 22.85 671 921
NT 21.80 608 867


Sales by Region
© OpenStreetMap contributors


Customer Satisfaction 2016
77%
Customer Satisfaction Increased by 5.0% Compared to last year.
Order Quantity Comparison 000s
NSW VIC QLD SA ACT WA TAS NT
Total Customers CY V PY
State
Trend
PYD
CYD
Var
NSW 246 238 (3%)
VIC 204 216 6%
QLD 136 145 7%
SA 103 111 8%
ACT 94 92 (2%)
WA 47 81 72%
TAS 123 81 (34%)
NT 65 74 14%
Sales by Product Type
22% Consumer
36% Corporate
25% Home Office
17% Small Business


Trend
Sales
Difference
1/1/11
1/1/12
1/1/13
1/1/14
1/1/15

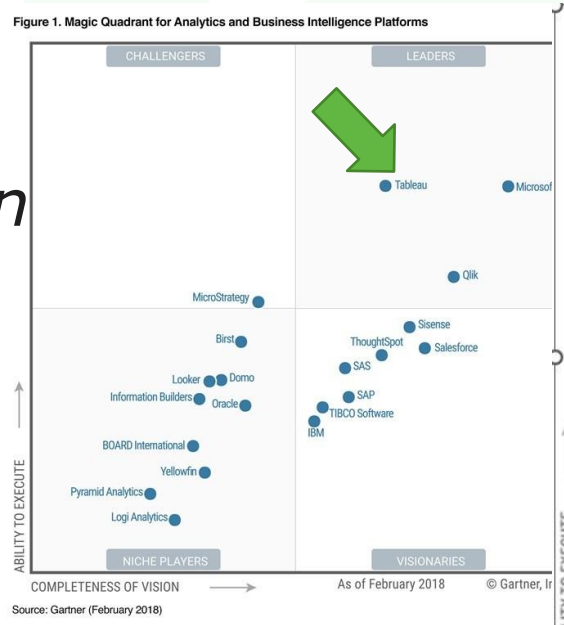

Sample Dashboard
EVOLYTICS
EVOLVING ANALYTICS
Bar Chart
California
New York
Texas
Washington
Pennsylvania
Florida
Illinois
Ohio
Michigan
Virginia
North Carolina
Indiana
Georgia
Kentucky
New Jersey
Arizona
Wisconsin
Colorado
Tennessee
Minnesota
Massachusetts
Delaware
Maryland
Region
Central
East
South
West
Sales
Difference in Sales
-$56,377
$56,377

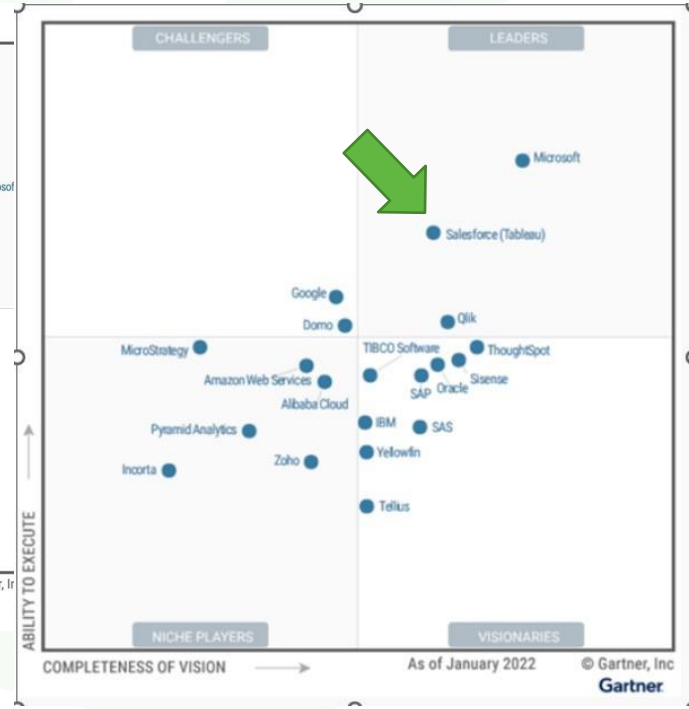
Why Tableau

With Tableau you can,

- *discover your data,*
- *analyse your data,*
- *present your findings and insights,*
- *share them with your colleagues, customers, business partners,*
- *connect your data and visualize it within minutes,*
- *create dashboards with high interactions.*

+ It is easy to use with drag and drop function, for everyone.





Loading Tableau

- Websites to upload the tool
- **TABLEAU DESKTOP** (14 days free trial) - https://www.tableau.com/products/trial
- **TABLEAU PUBLIC** (Free version) - https://public.tableau.com/s/
- **TABLEAU FOR STUDENTS** - https://www.tableau.com/academic/students
- **TABLEAU FOR TEACHING** - https://www.tableau.com/academic/teaching

!! The document for installation has been shared beforehand.

About Tableau..

Tableau

- Tableau is a BI data visualization software
- Uses drag-and-drop interface to transform data into visually appealing dashboards
- Founded at Stanford University in 2003 and recently sold to Salesforce for $15B
- Tableau products query relational databases, online analytical processing cubes, cloud databases, and spreadsheets to generate graph type data visualizations
- These interactive visualizations are presented on a dashboard

Traditional vs. Tableau

Traditional vs. Tableau

Traditional Method	Tableau
Requires specific programming skills	No programming skills required
Focused on only one type of database	Combines different types of database spreadsheets, databases, cloud data, and even big data such as Hadoop
Time consuming	Time saving
Decision makers have to ask the IT people to retrieve any information from the database	Decision makers can directly use the dashboard to retrieve any information from the database
Largely depends on Query languages	Query is done behind the scene
Combining different types of database is difficult	Different types of databases can be combined easily
Not every business intelligence tool offers interactive dashboard	Interactive dashboard is easy to build and it makes data visualization quick and efficient
Comparatively expensive	Comparatively affordable
Mostly designed for large businesses	Perfect BI solution for small, medium, and large businesses, and even for non-profits

Business Process vs. Tableau Process

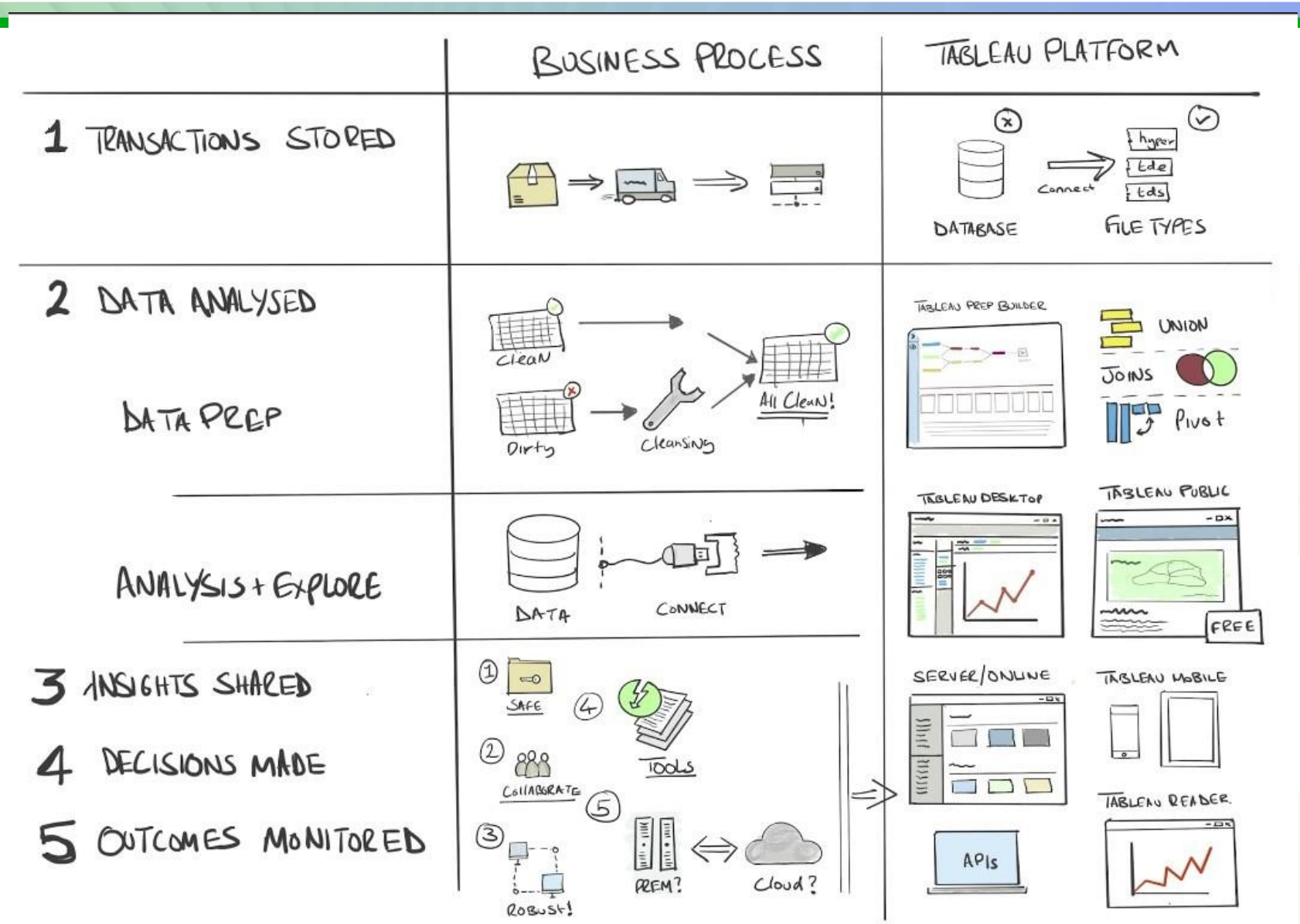


Tableau Products

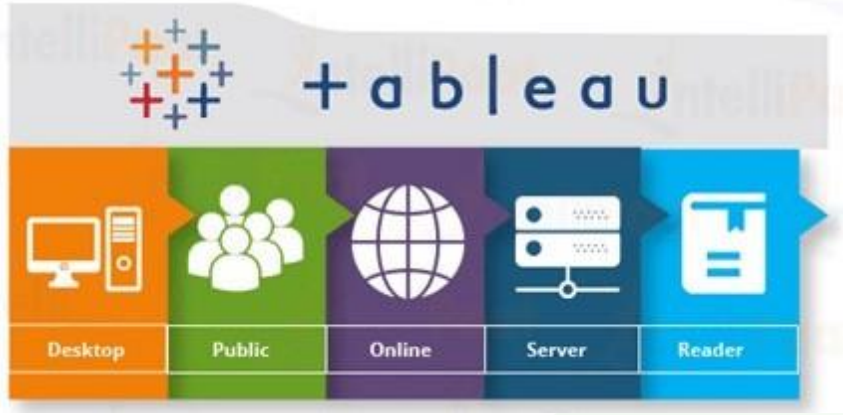
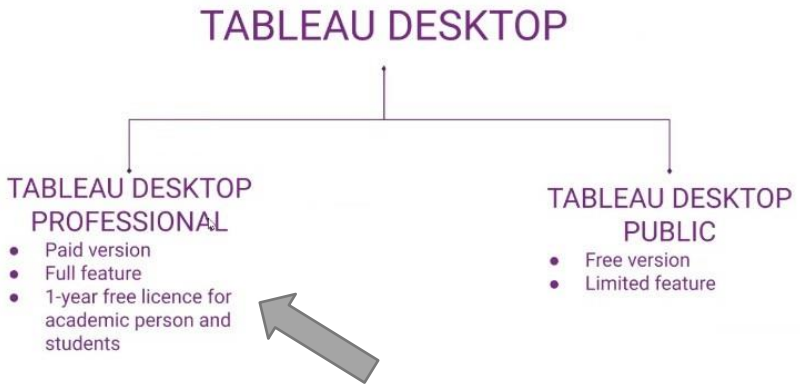


Tableau products

- Tableau Desktop
- Tableau Prep
- Tableau Server
- Tableau Online



Info about Tableau Academic...

Tools Learning Information Steps

Tableau Learning Flow Infograph

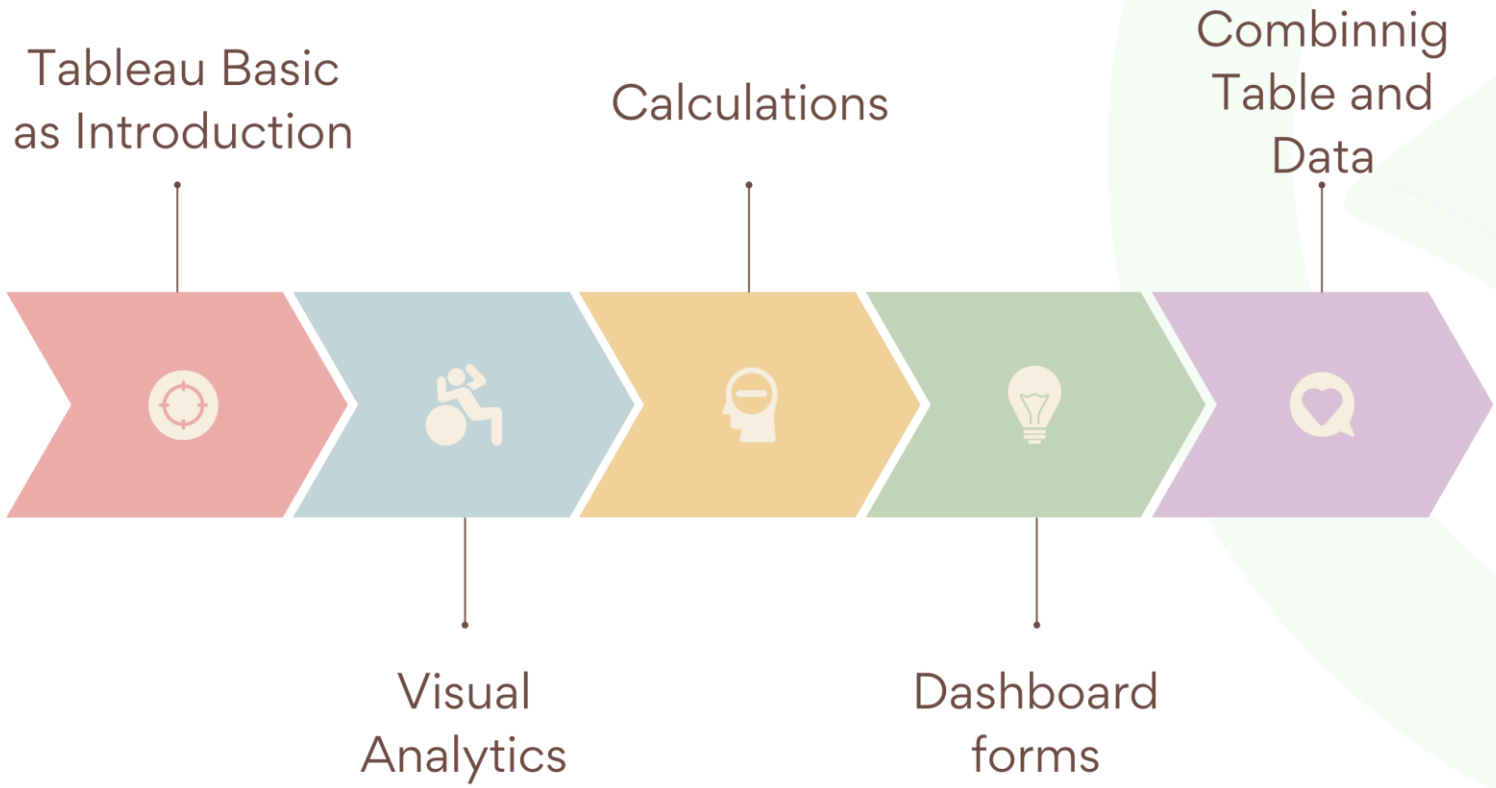


Tableau Engineer

OREDATA · Istanbul, Istanbul, Turkey (Hybrid) 6 days ago · **5 applicants**

Full-time · Mid-Senior level

51-200 employees · Information Technology & Services

3 connections

See recent hiring trends for OREDATA. Try Premium for free

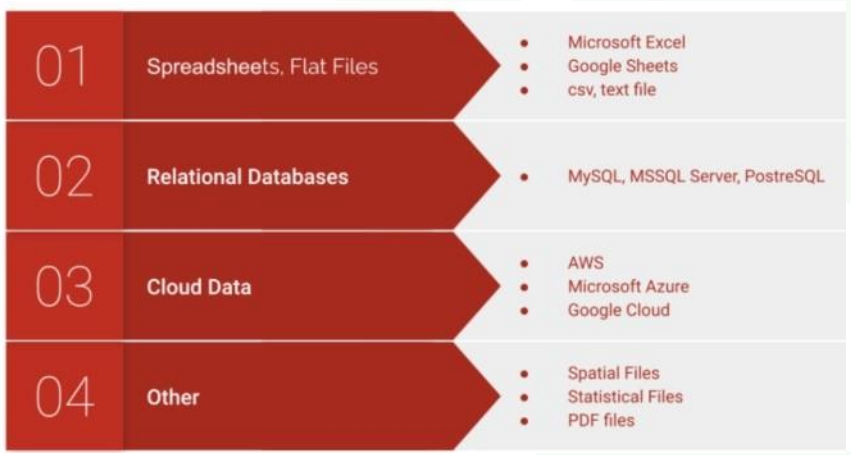
Tableau Fundamentals

Tableau Basics

Dataset Definition

What is dataset? (for Tableau users)

- It is the databse that is going to be used for visualisation
- Data types:
  - Spreadsheets
  - Relational databases
  - Cloud data
  - Others



[Click to see all data types that Tableau supports..]

Fields

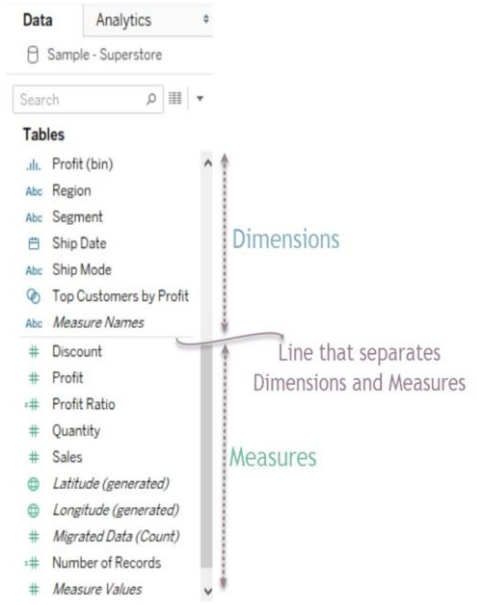
Fields

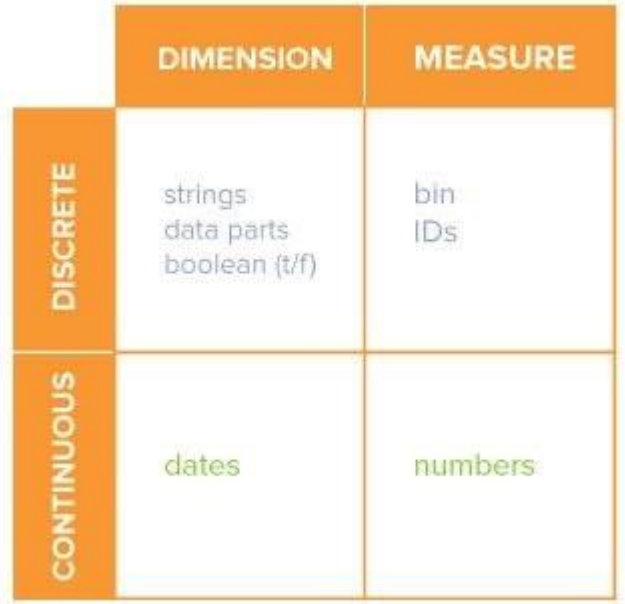
- In Tableau, instead of column, we use the term ‚field‘
- Dimensions
- Measures

employees table

emp_id	first_name	last_name	salary	job_title	gender	hire_date
17679	Robert	Gilmore	110000	Operations Director	Male	2018-09-04
26650	Elvis	Ritter	86000	Sales Manager	Male	2017-11-14
30840	David	Barrow	85000	Data Scientist	Male	2019-12-12

Dimensions	Measures
Qualitative data	Quantitative data
Names, dates, or geographical data	Numeric & quantitative values





Row-Level Record

Row-level Record

- Row-level-record is an important term for Tableau users
- You can think it as the smallest part of our dataset
- Granularity
- Aggregation

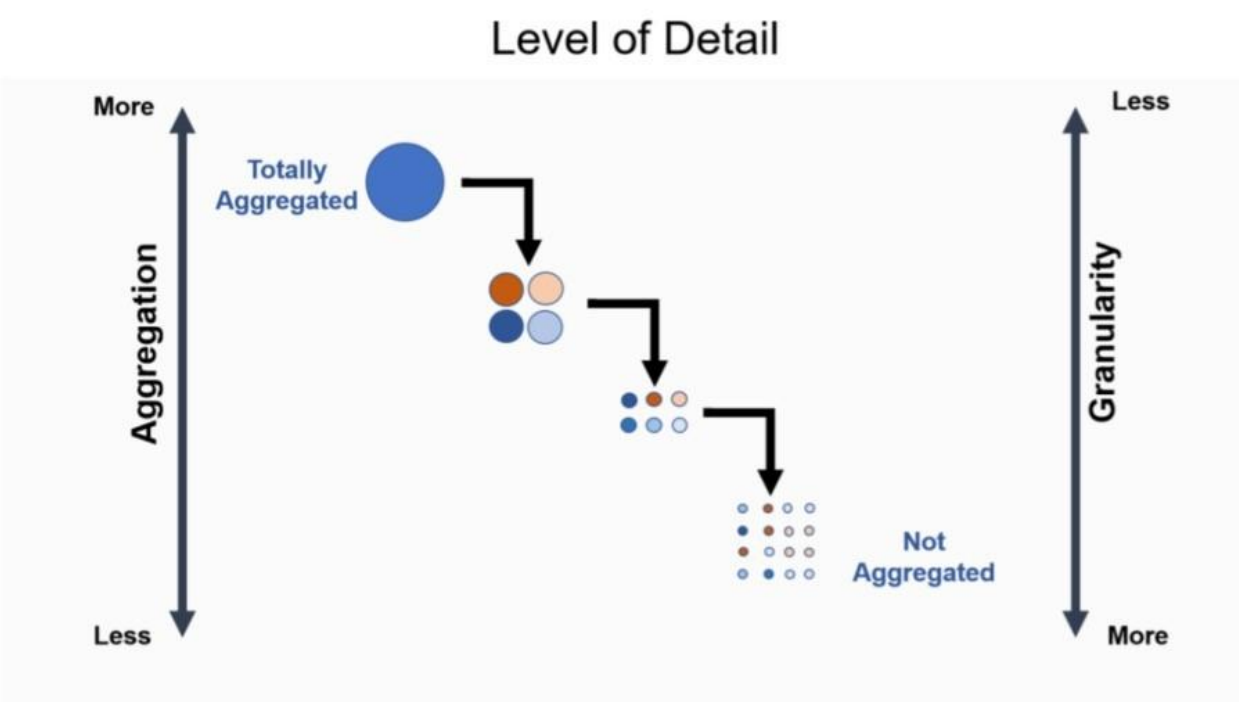
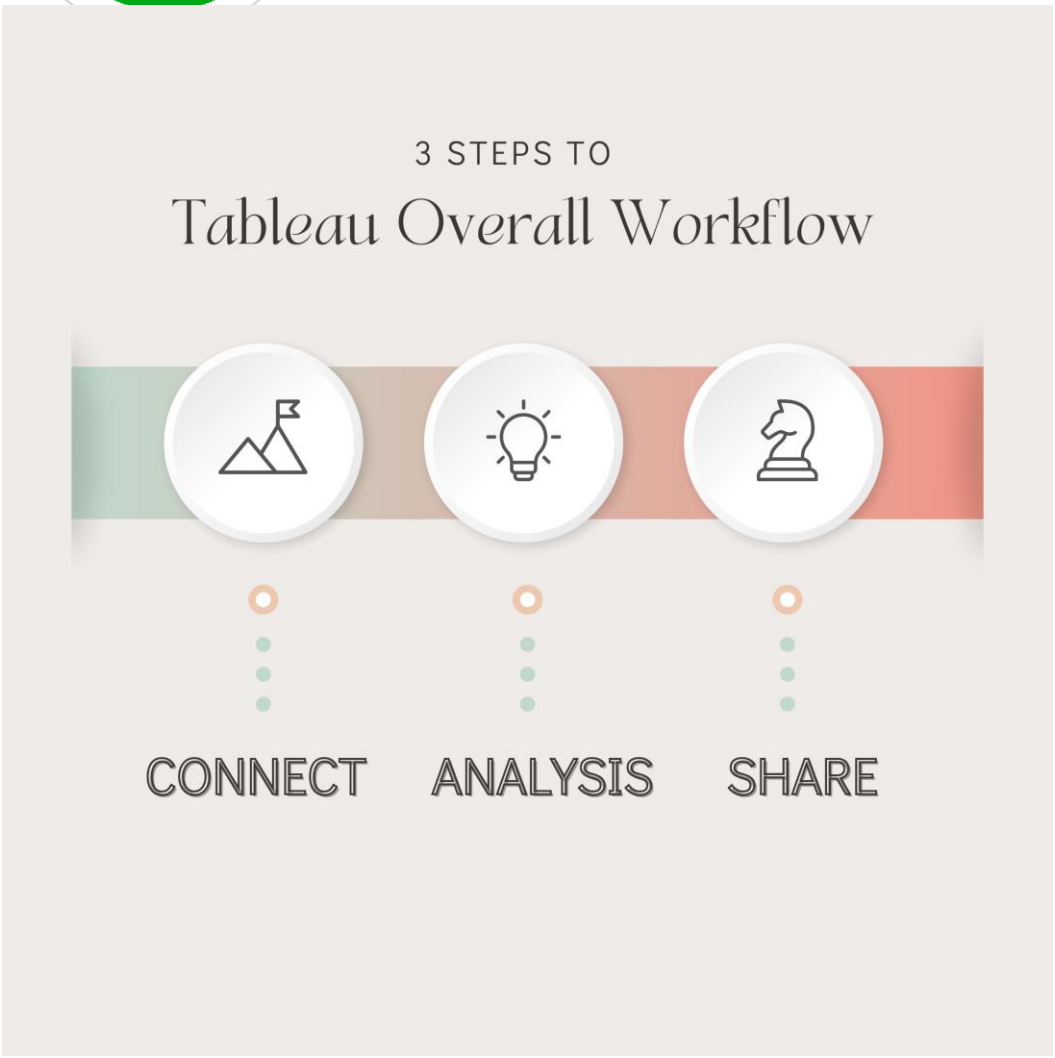


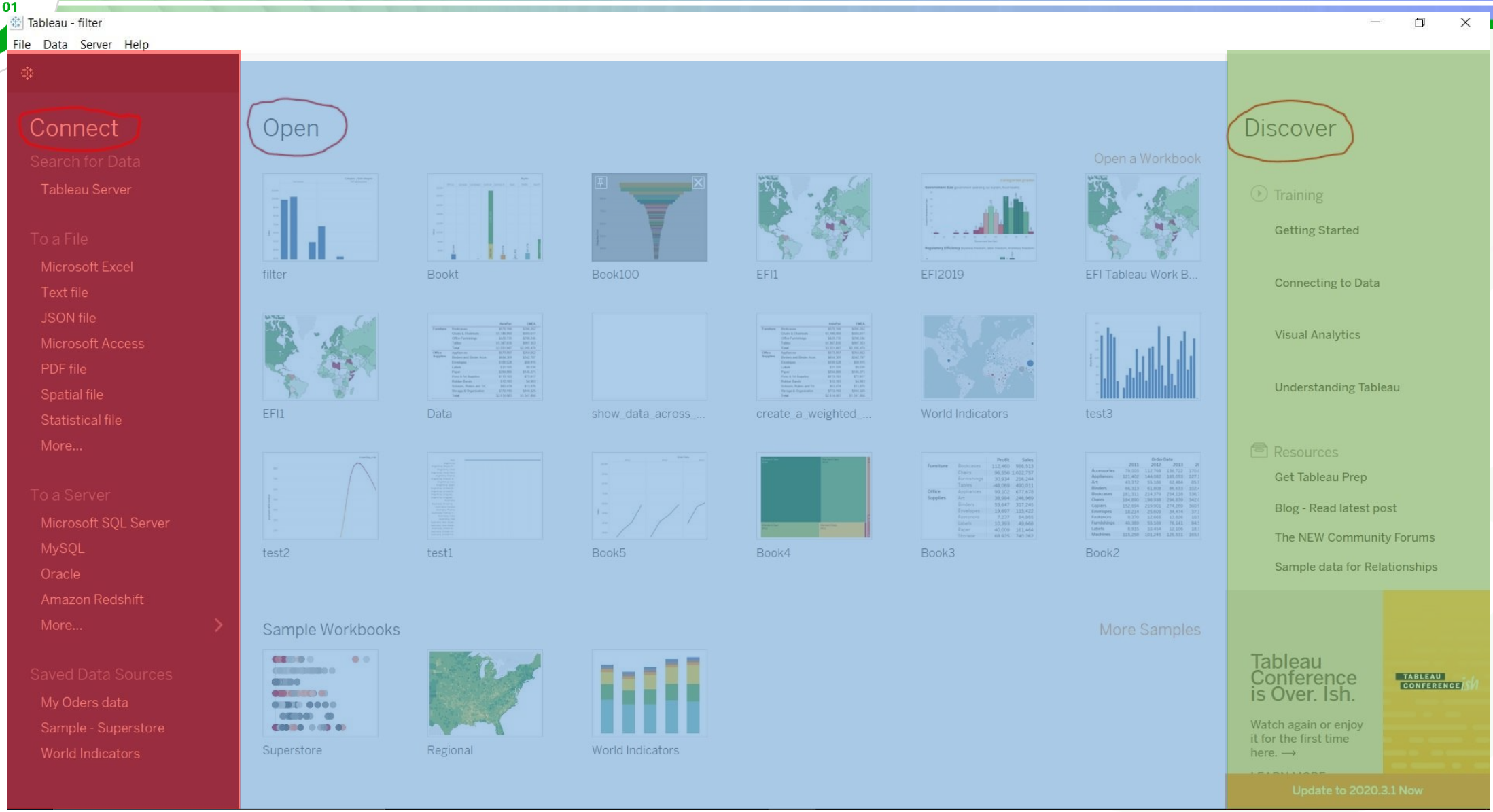
Tableau Overall Workflow



Let’s upload Tableau together!

I have set up Tableau Desktop and I am ready for the lecture.

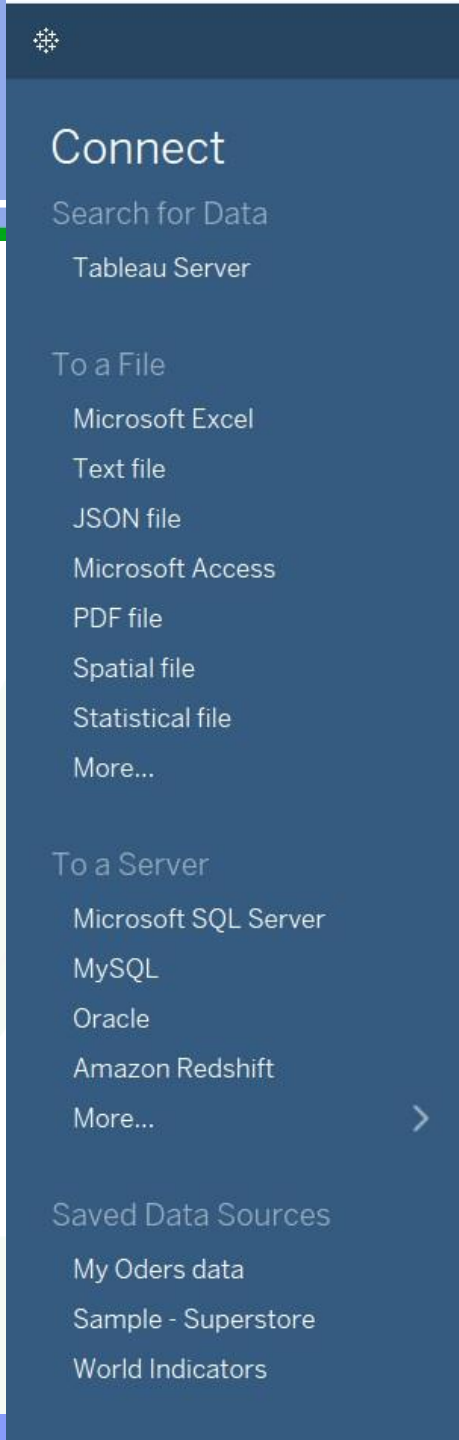
Tableau Desktop Start Page



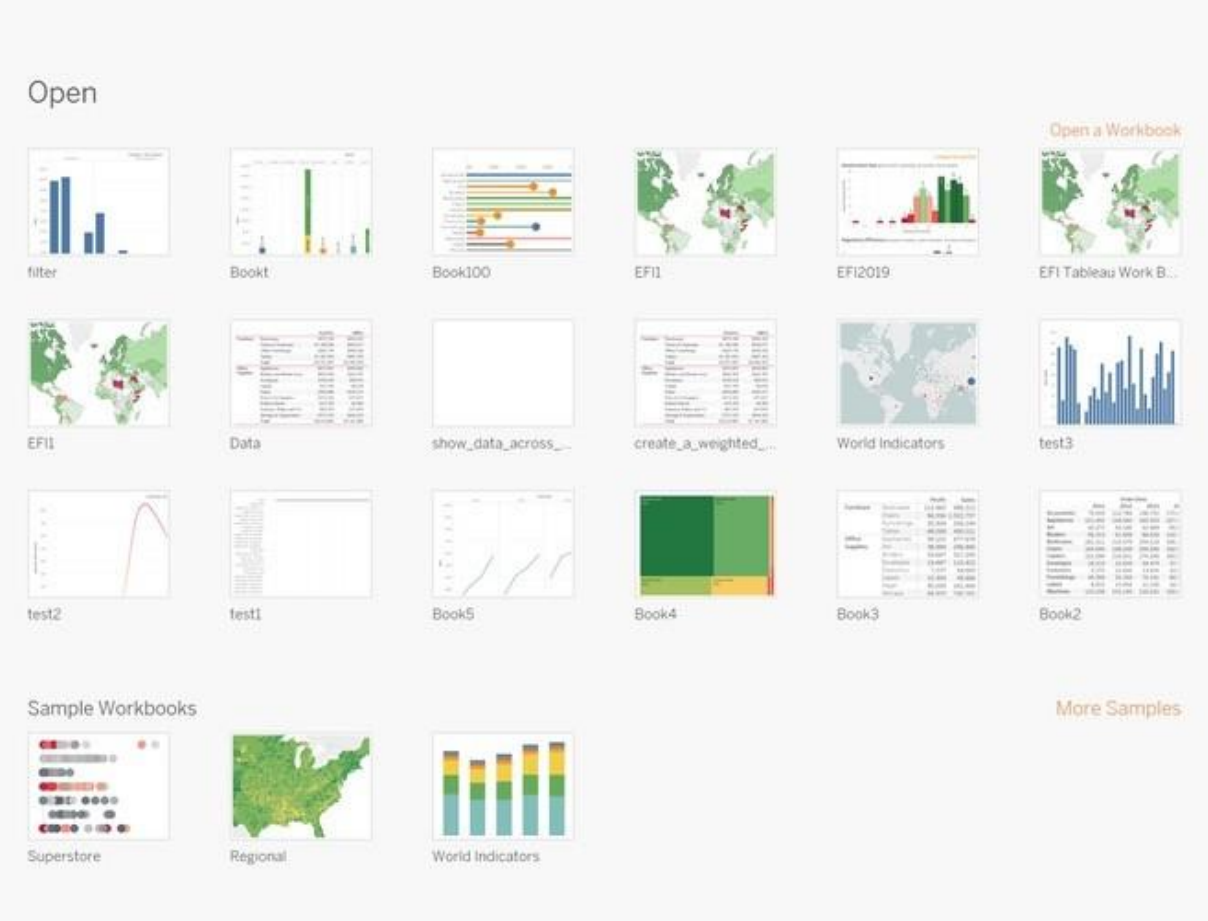
Connect Pane

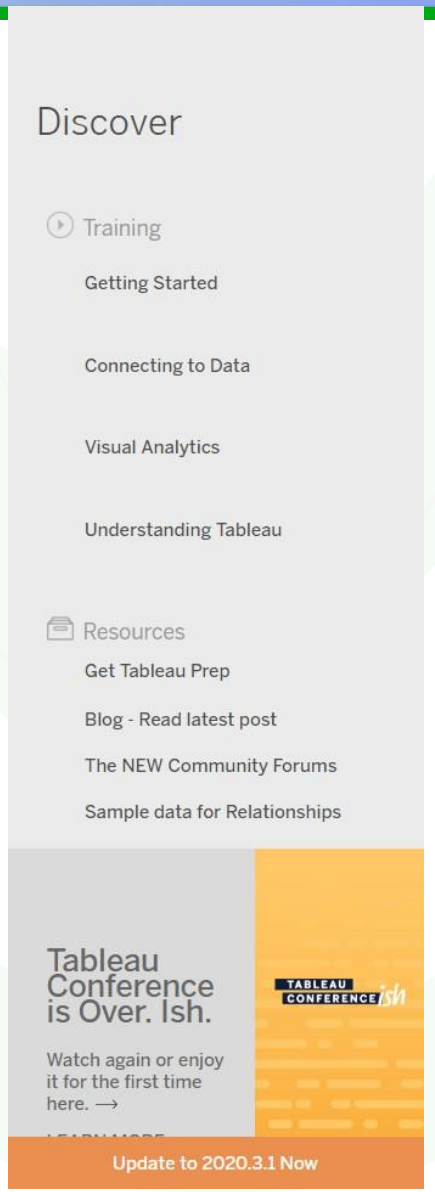
Connect Pane

- **Search for Data:**
- **To a File,**
- **To a Server,**
- **Saved Data Sources.**



Open Pane + Discover Pane





Data Connection

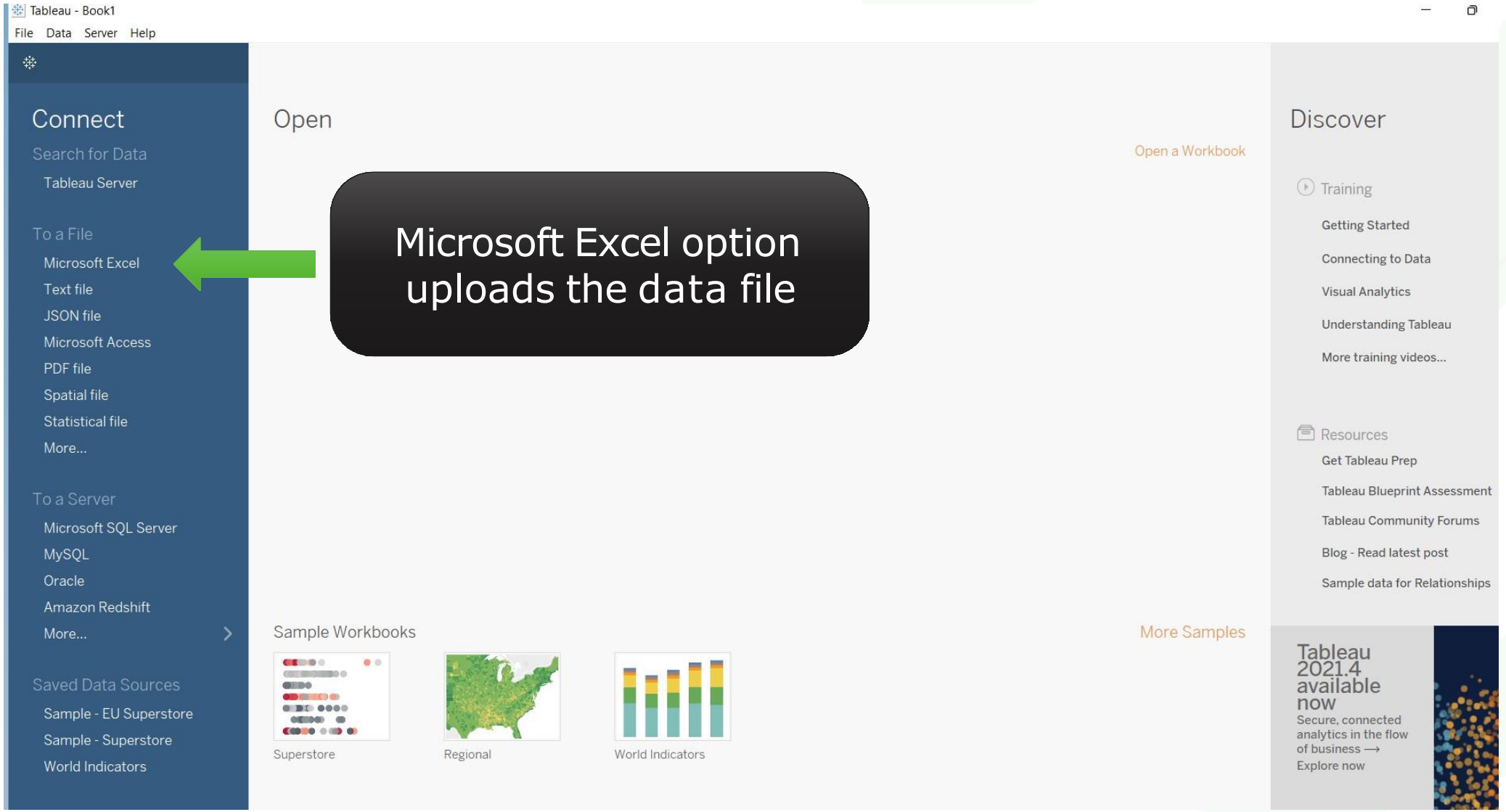
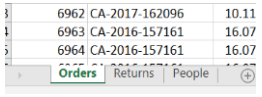
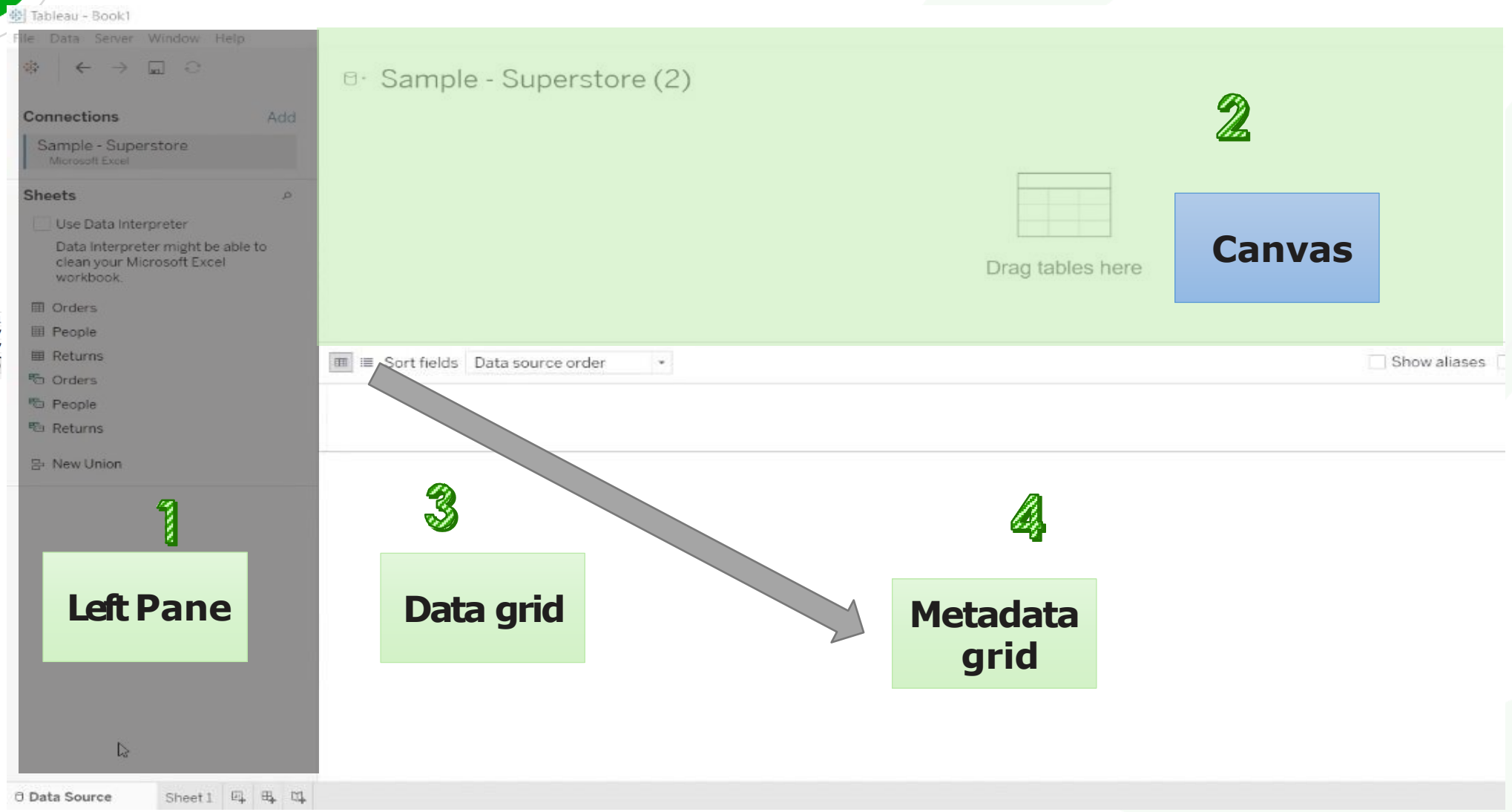


Tableau Data Source Page





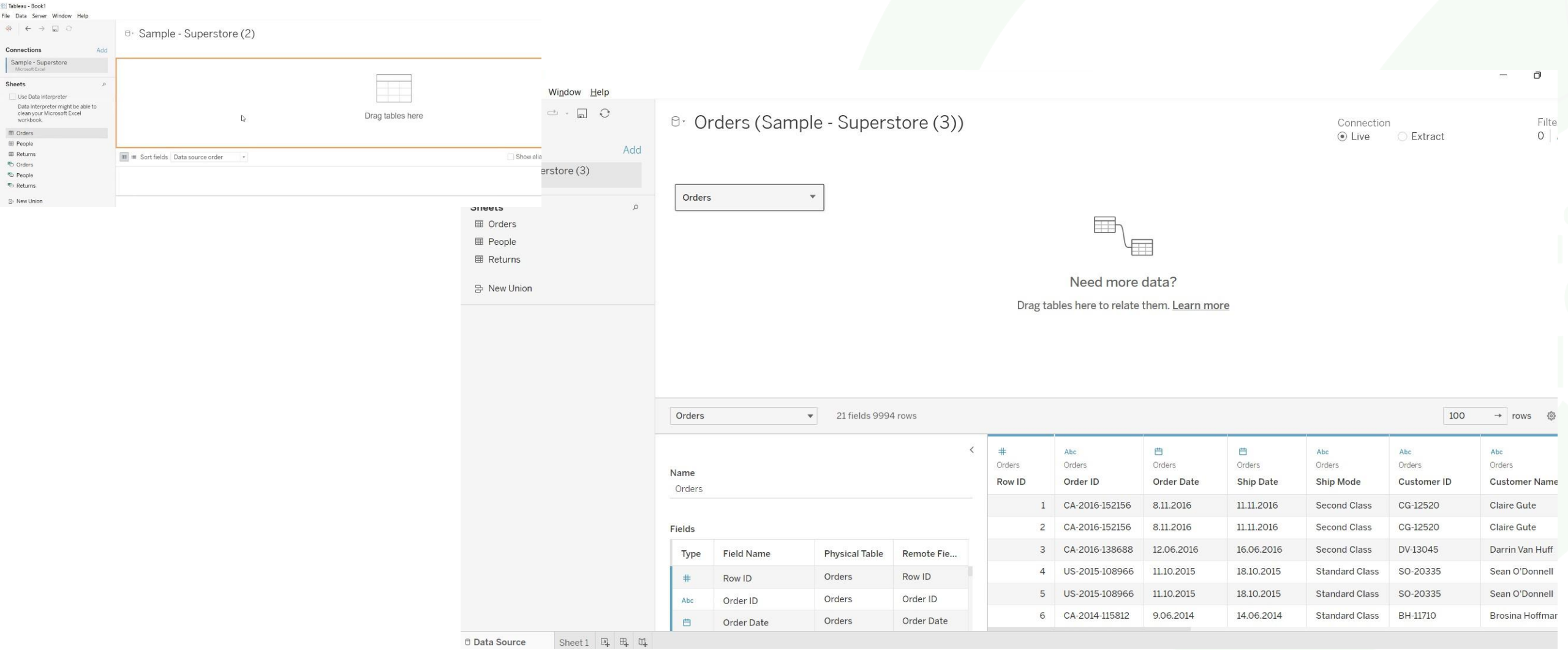
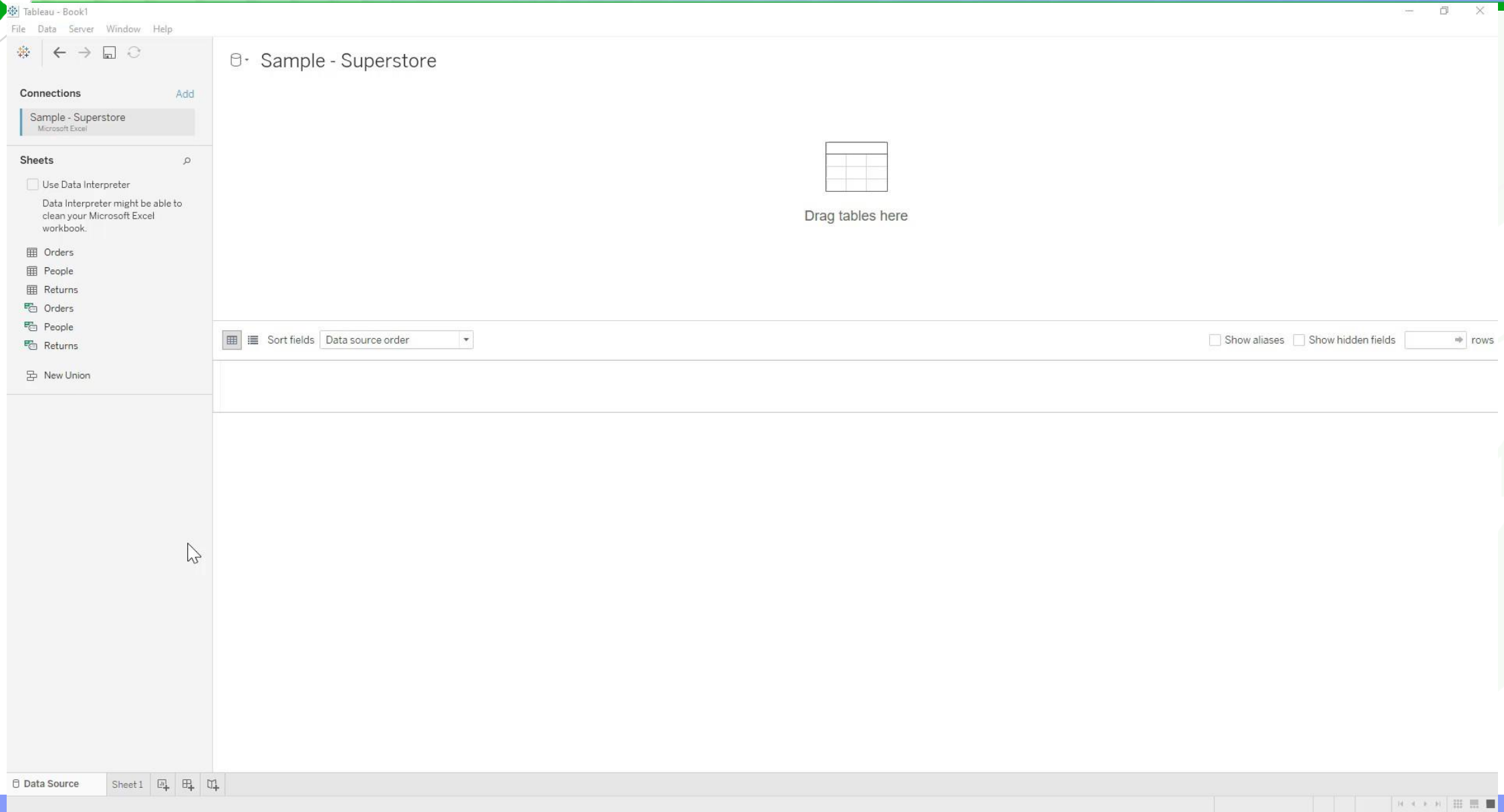


Tableau - Book1
File Data Server Window Help
Connections
Add
Sample - Superstore
Microsoft Excel
Sheets
Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.
Orders
People
Returns
Orders
People
Returns
New Union
Sample - Superstore (2)
Drag tables here
Sort fields
Data source order
Show alia
Window Help
Add
erstore (3)
Sheets
Orders
People
Returns
New Union
Orders (Sample - Superstore (3))
Connection
Live
Extract
Filte
0
Orders
Need more data?
Drag tables here to relate them. Learn more
Orders
21 fields 9994 rows
100
rows
Name
Orders
Fields
Type
Field Name
Physical Table
Remote Fie...
Row ID
Orders
Row ID
Order ID
Orders
Order ID
Order Date
Orders
Order Date
Data Source
Sheet 1
Orders
Row ID
Orders
Order ID
Orders
Order Date
Orders
Ship Date
Orders
Ship Mode
Orders
Customer ID
Orders
Customer Name
1 CA-2016-152156 8.11.2016 11.11.2016 Second Class CG-12520 Claire Gute
2 CA-2016-152156 8.11.2016 11.11.2016 Second Class CG-12520 Claire Gute
3 CA-2016-138688 12.06.2016 16.06.2016 Second Class DV-13045 Darrin Van Huff
4 US-2015-108966 11.10.2015 18.10.2015 Standard Class SO-20335 Sean O'Donnell
5 US-2015-108966 11.10.2015 18.10.2015 Standard Class SO-20335 Sean O'Donnell
6 CA-2014-115812 9.06.2014 14.06.2014 Standard Class BH-11710 Brosina Hoffmar

Drag and Drop

Animated slide



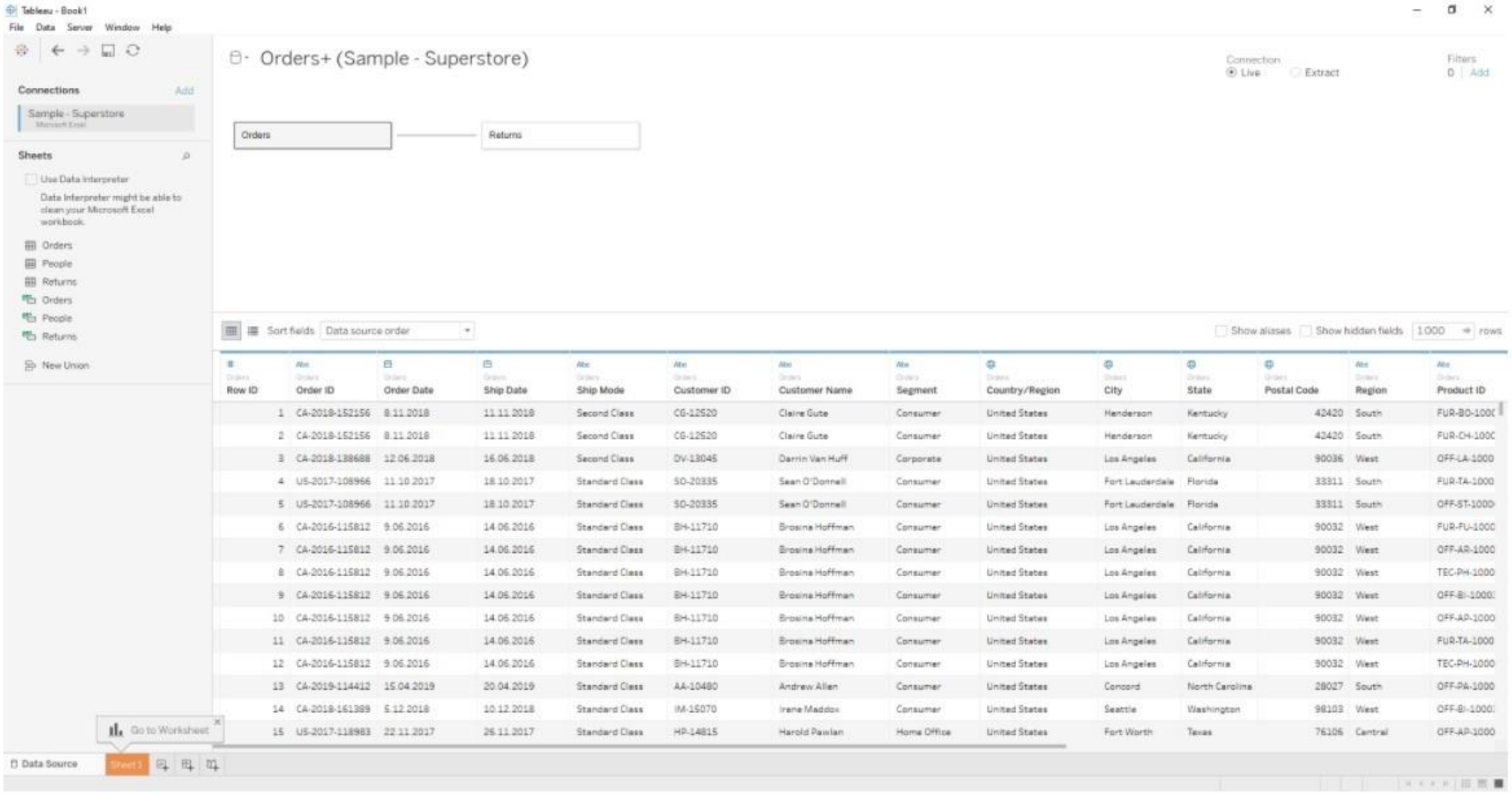
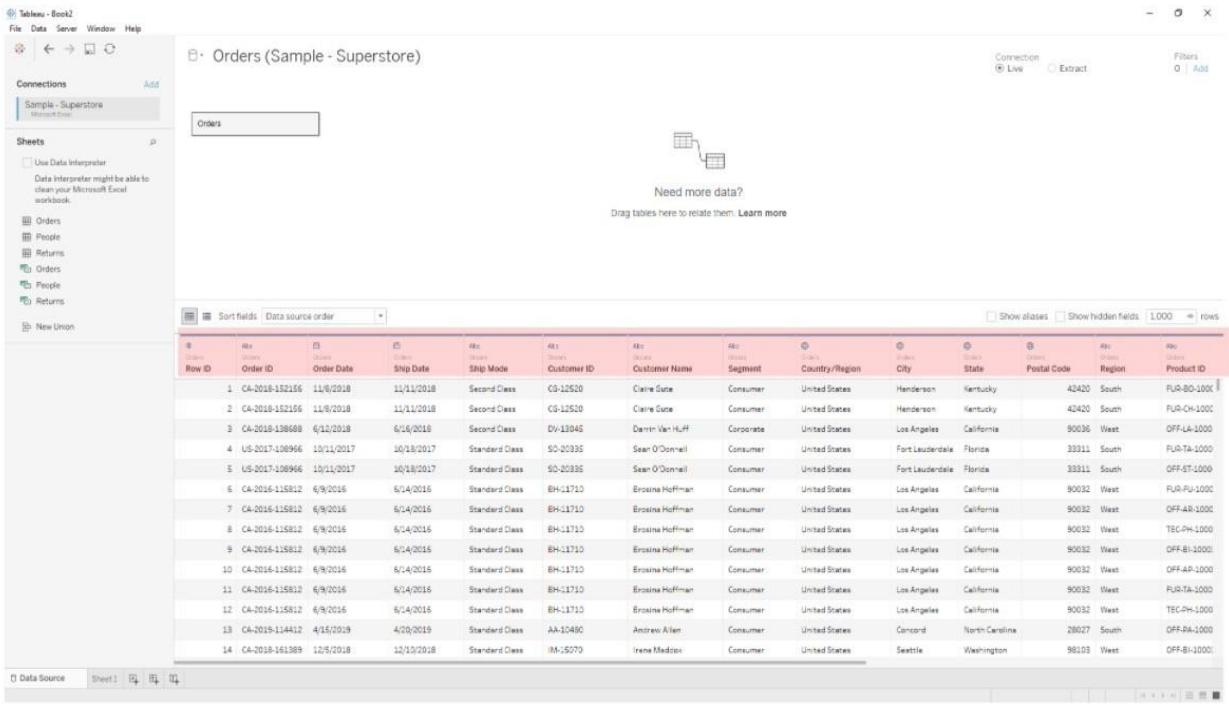


Tableau - Book1
File Data Server Window Help
Connections Add
Sample - Superstore
Sheets
Use Data Interpreter
Data Interpreter might be able to clean your Microsoft Excel workbook.
Orders
People
Returns
Orders
People
Returns
New Union
Orders+ (Sample - Superstore)
Connection
Live
Extract
Filters
0 Add
Orders
Returns
Sort fields
Data source order
Show aliases
Show hidden fields
1,000
rows
Row ID
Order ID
Order Date
Ship Date
Ship Mode
Customer ID
Customer Name
Segment
Country/Region
City
State
Postal Code
Region
Product ID
1 CA-2018-152156 8.11.2018 11.11.2018 Second Class CG-12520 Claire Gute Consumer United States Henderson Kentucky 42420 South FUR-BO-10001
2 CA-2018-152156 8.11.2018 11.11.2018 Second Class CG-12520 Claire Gute Consumer United States Henderson Kentucky 42420 South FUR-CH-10001
3 CA-2018-138688 12.06.2018 16.06.2018 Second Class DV-13045 Darrin Van Huff Corporate United States Los Angeles California 90036 West OFF-LA-10000
4 US-2017-108966 11.10.2017 18.10.2017 Standard Class SO-20335 Sean O'Donnell Consumer United States Fort Lauderdale Florida 33311 South FUR-TA-10000
5 US-2017-108966 11.10.2017 18.10.2017 Standard Class SO-20335 Sean O'Donnell Consumer United States Fort Lauderdale Florida 33311 South OFF-ST-10000
6 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West FUR-FU-10001
7 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West OFF-AR-10002
8 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West TEC-PH-10002
9 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West OFF-BI-10003
10 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West OFF-AP-10002
11 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West FUR-TA-10001
12 CA-2016-115812 9.06.2016 14.06.2016 Standard Class BH-11710 Brosina Hoffman Consumer United States Los Angeles California 90032 West TEC-PH-10002
13 CA-2019-114412 15.04.2019 20.04.2019 Standard Class AA-10480 Andrew Allen Consumer United States Concord North Carolina 28027 South OFF-PA-10001
14 CA-2018-161389 5.12.2018 10.12.2018 Standard Class IM-15070 Irene Maddox Consumer United States Seattle Washington 98103 West OFF-BI-10003
15 US-2017-118983 22.11.2017 26.11.2017 Standard Class HP-14815 Harold Pawlan Home Office United States Fort Worth Texas 76106 Central OFF-AP-10002
Go to Worksheet
Data Source
Sheet 1



Data type change in the data source page

Orders Row ID	Abc		Orders Ship Date	Abc Orders Ship Mode
1		18	11/11/2018	Second Class
2		18	11/11/2018	Second Class
3		18	6/16/2018	Second Class
4		017	10/18/2017	Standard Class
5		017	10/18/2017	Standard Class
6			6/14/2016	Standard Class
7	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
8	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
9	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
10	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
11	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
12	CA-2016-115812	6/9/2016	6/14/2016	Standard Class
13	CA-2019-114412	4/15/2019	4/20/2019	Standard Class

Number (decimal)
Number (whole)
Date & Time
Date
String
Boolean
Default
Geographic Role

Data type change in the data pane

Search

Tables

Abc Category

Number (decimal)
Number (whole)
Date & Time
Date
String
Boolean
Default
Geographic Role

Row ID
Segment
Ship Date
Ship Mode
State
Sub-Category
Measure Names
Discount
Profit

Undo process

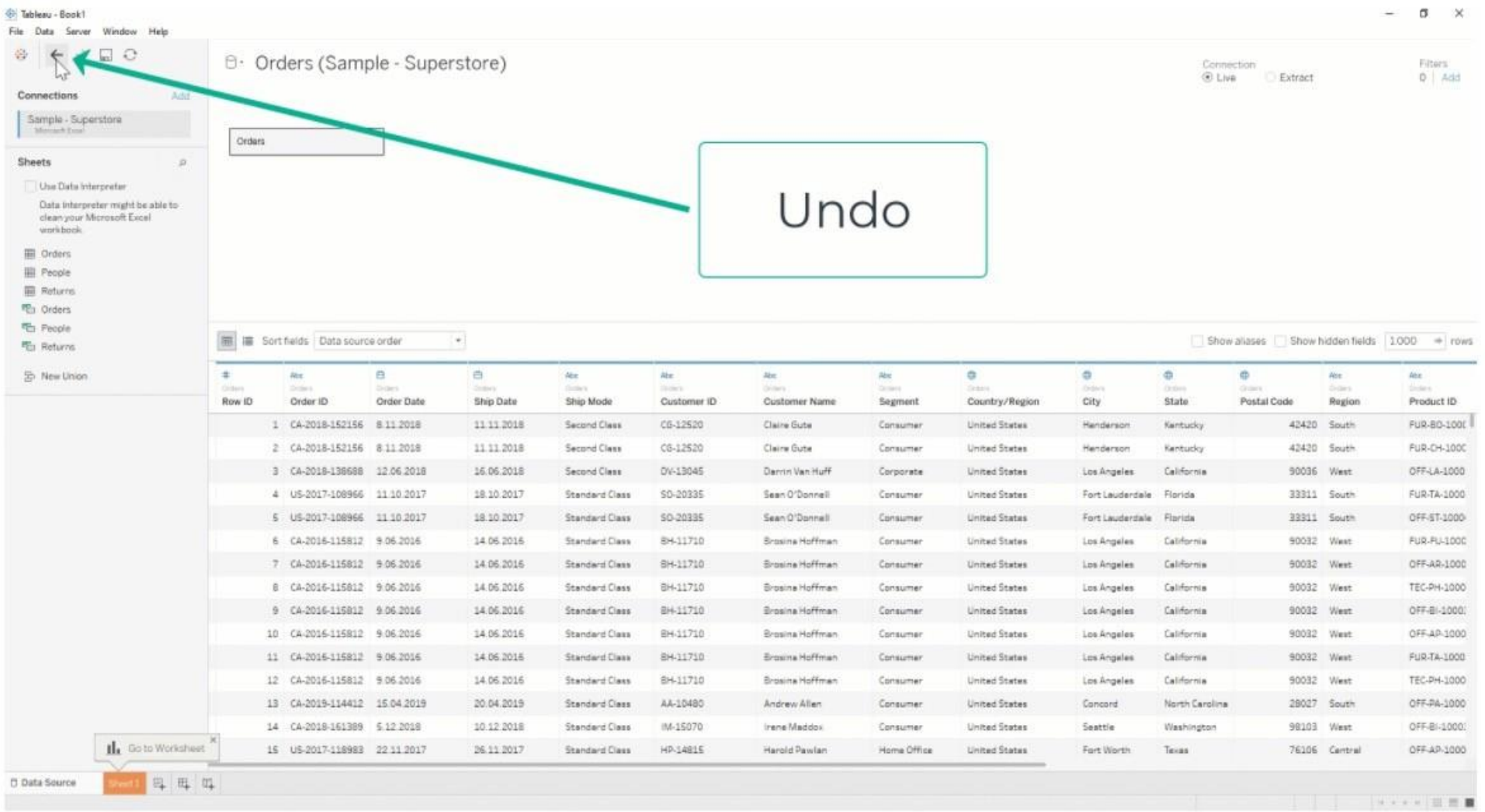
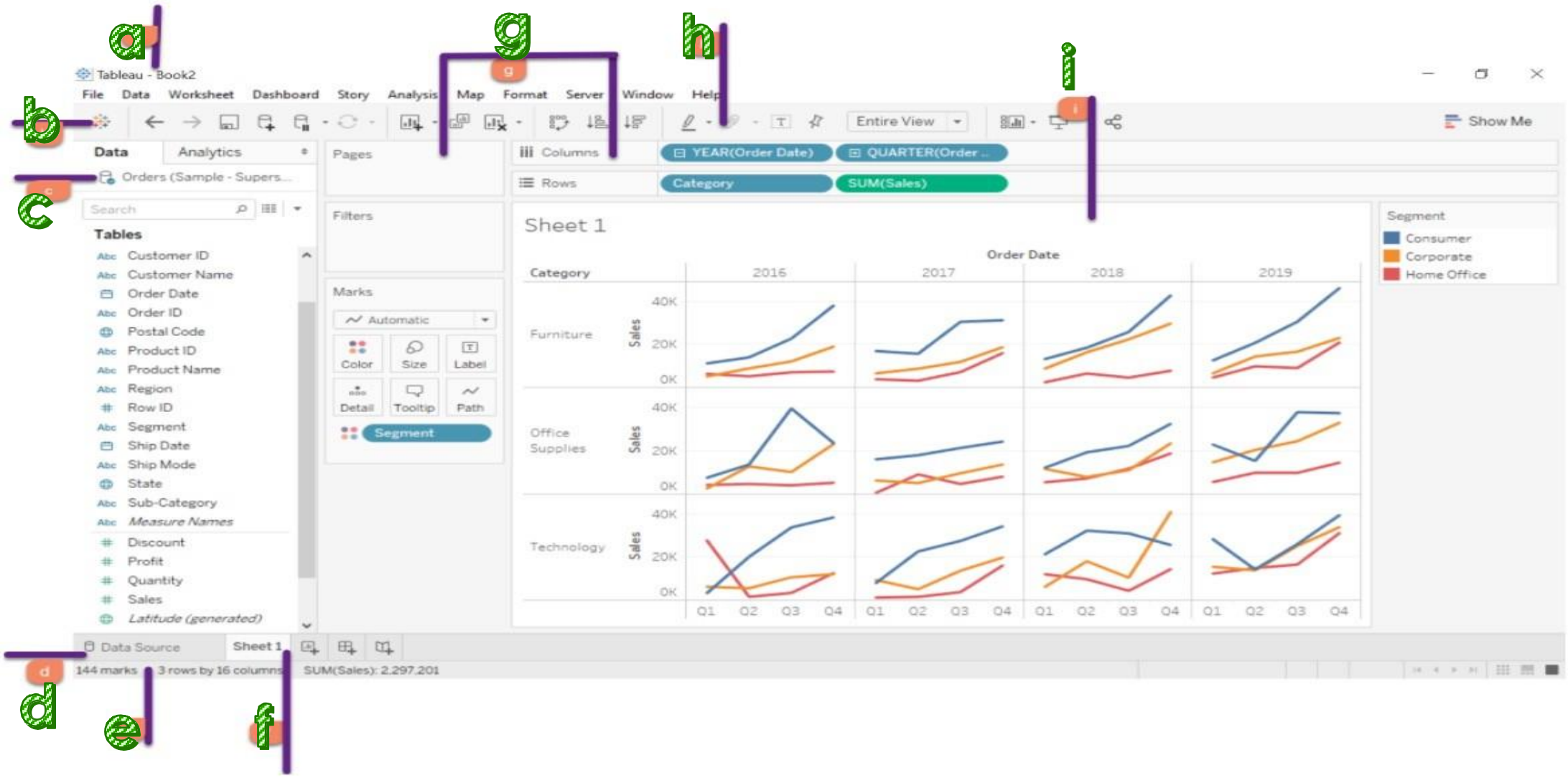
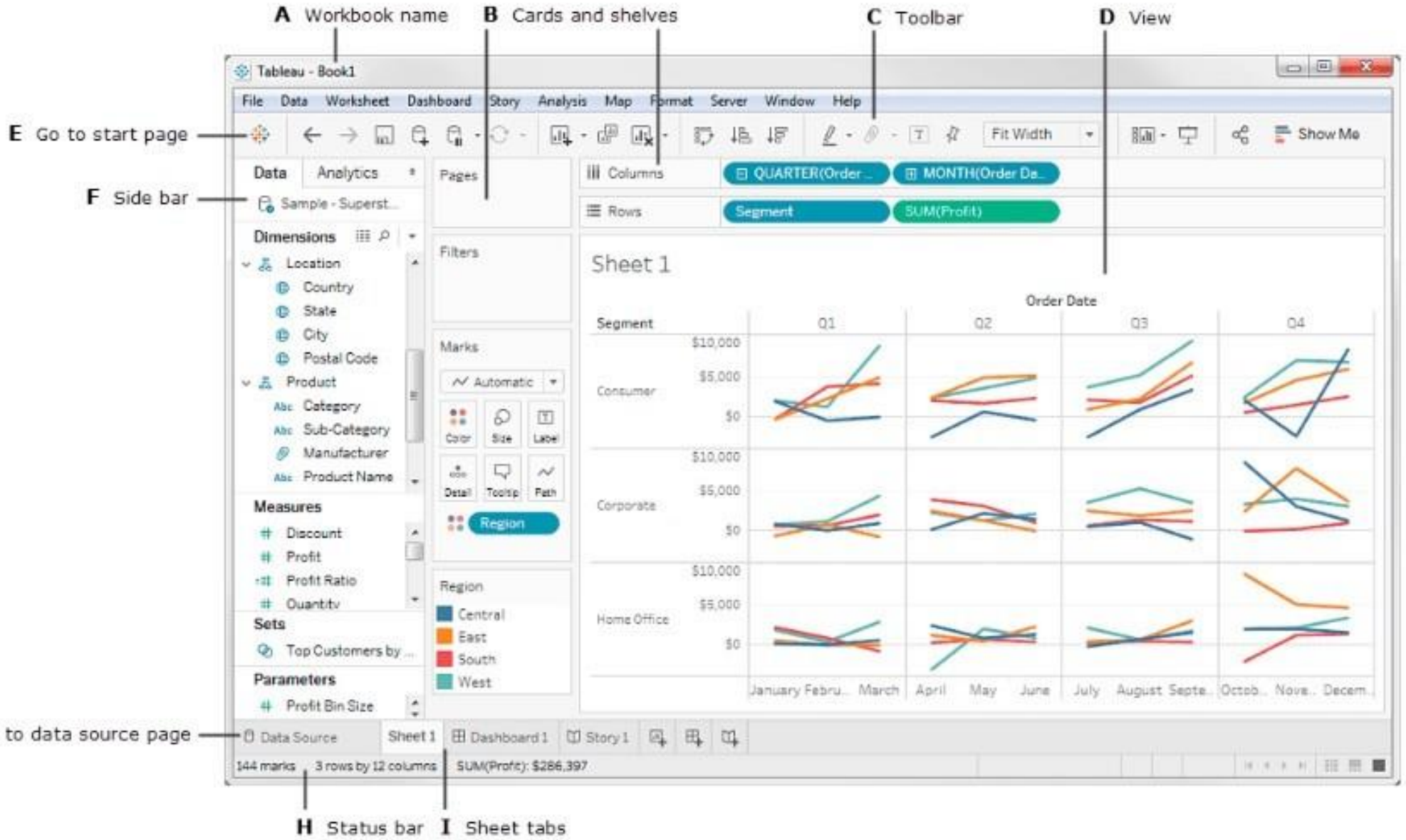


Tableau Workspaces




A Workbook name
B Cards and shelves
C Toolbar
D View
E Go to start page
F Side bar
G Go to data source page
H Status bar
I Sheet tabs
Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Fit Width
Show Me
Data
Analytics
Sample - Superst...
Dimensions
Location
Country
State
City
Postal Code
Product
Category
Sub-Category
Manufacturer
Product Name
Measures
Discount
Profit
Profit Ratio
Quantity
Sets
Top Customers by ...
Parameters
Profit Bin Size
Pages
Filters
Marks
Automatic
Color
Size
Label
Detail
Tooltip
Path
Region
Region
Central
East
South
West
Columns
QUARTER(Order ...
MONTH(Order Da...
Rows
Segment
SUM(Profit)
Sheet 1
Order Date
Segment
Q1
Q2
Q3
Q4
Consumer
Corporate
Home Office
$10,000
$5,000
$0
January
Febru..
March
April
May
June
July
August
Septe..
Octob..
Nove..
Decem..
Data Source
Sheet 1
Dashboard 1
Story 1
144 marks
3 rows by 12 columns
SUM(Profit): $286,397

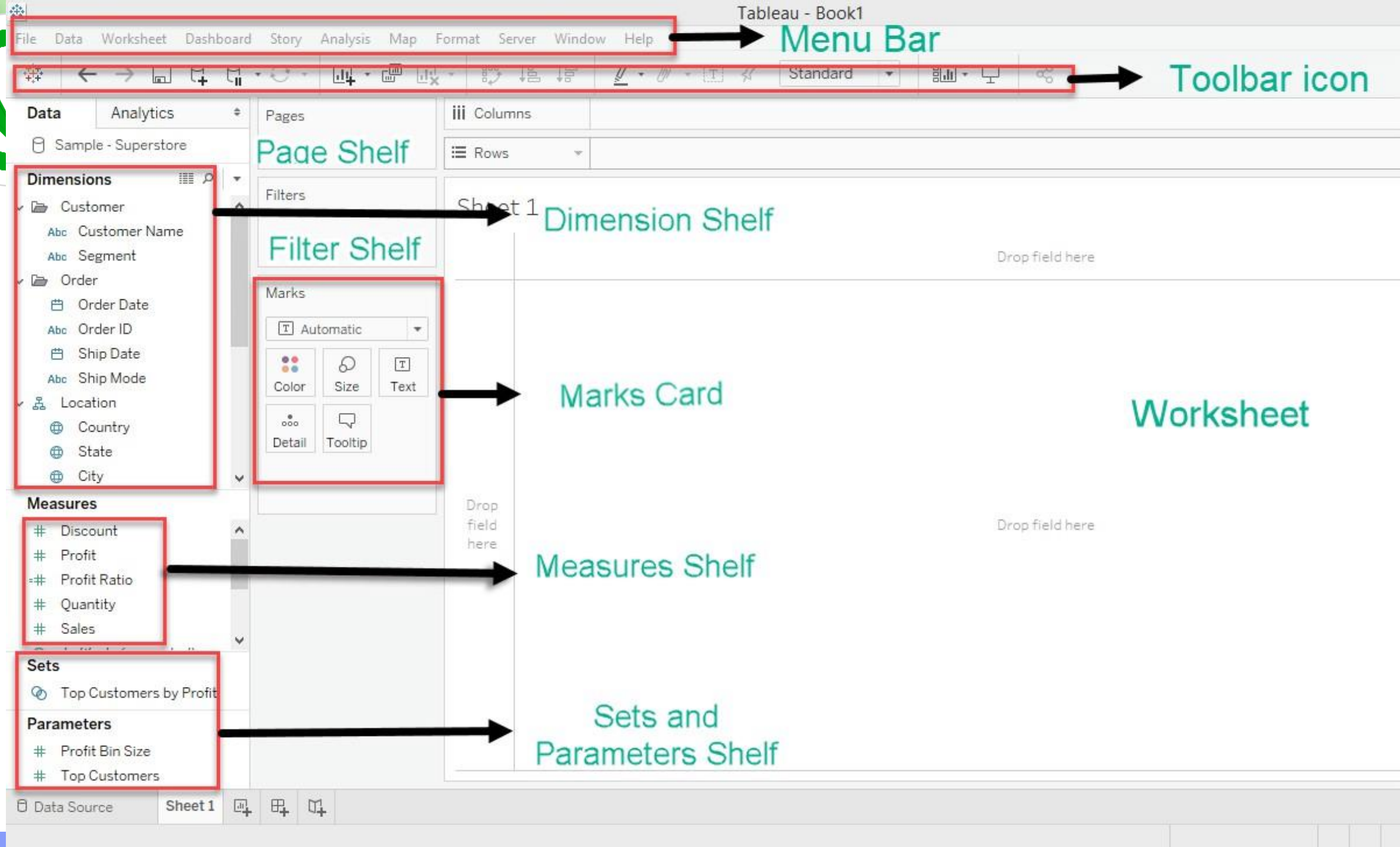


Tableau - Book1
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Menu Bar
Standard
Toolbar icon
Data
Analytics
Sample - Superstore
Pages
Page Shelf
Columns
Rows
Filters
Filter Shelf
Dimensions
Customer
Customer Name
Segment
Order
Order Date
Order ID
Ship Date
Ship Mode
Location
Country
State
City
Dimension Shelf
Drop field here
Marks
Automatic
Color
Size
Text
Detail
Tooltip
Marks Card
Worksheet
Measures
Discount
Profit
Profit Ratio
Quantity
Sales
Drop field here
Measures Shelf
Sets
Top Customers by Profit
Parameters
Profit Bin Size
Top Customers
Sets and Parameters Shelf
Data Source
Sheet 1

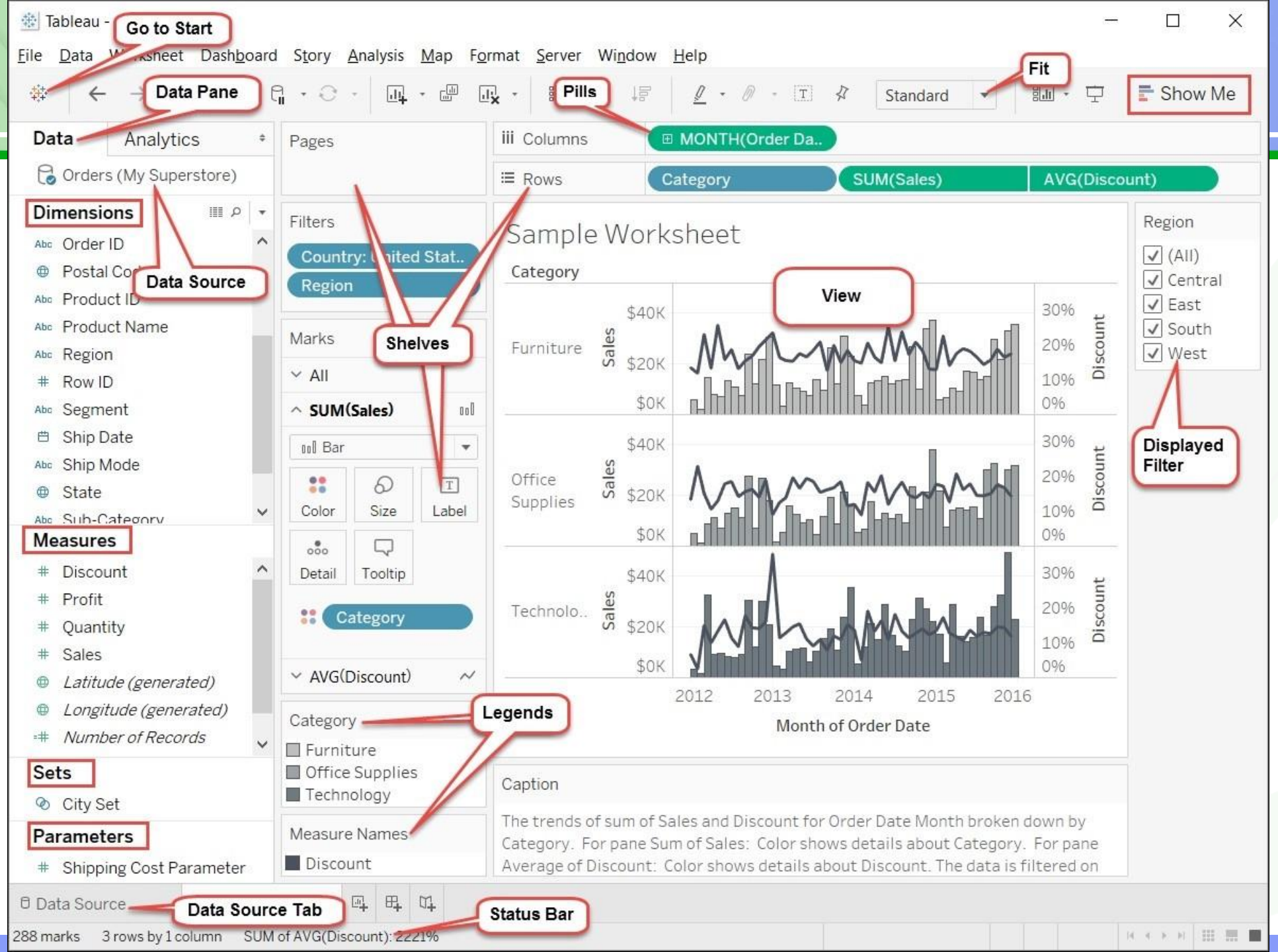
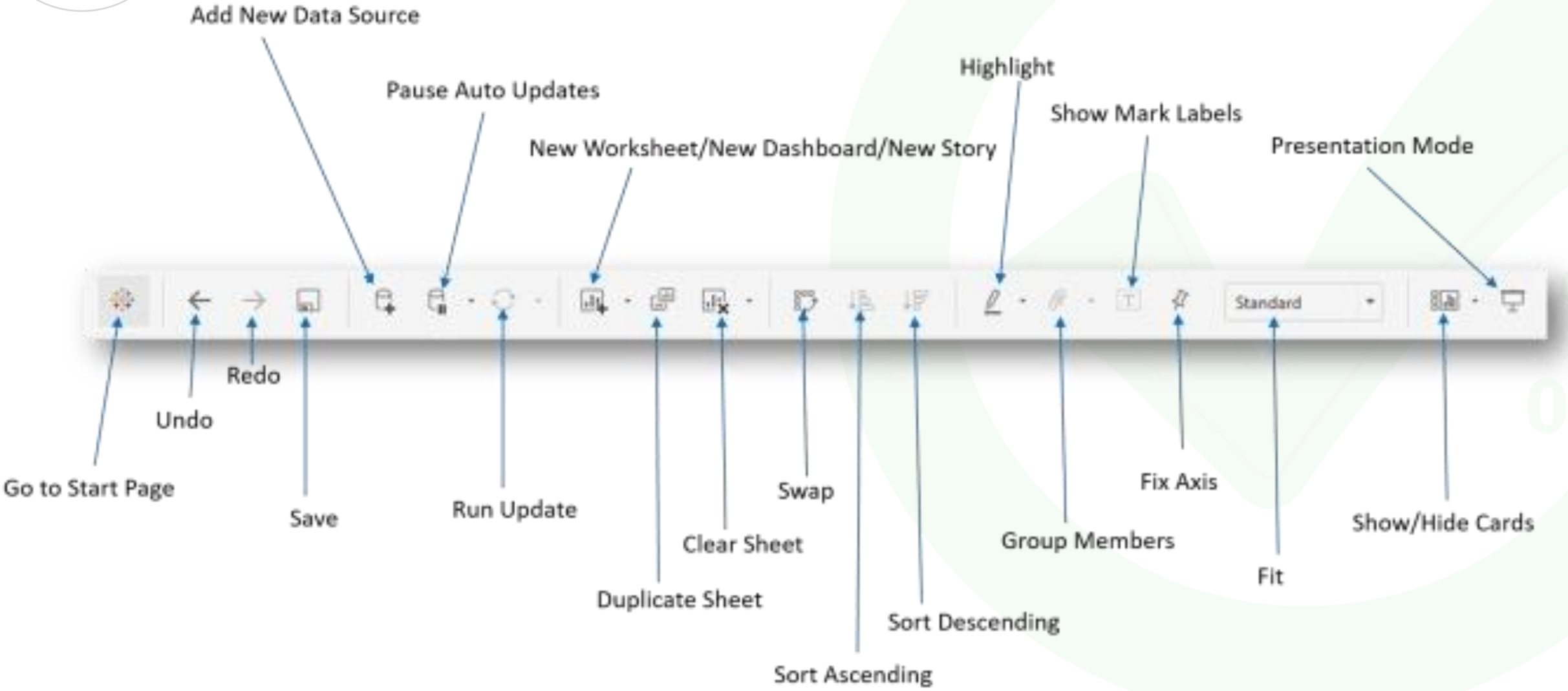
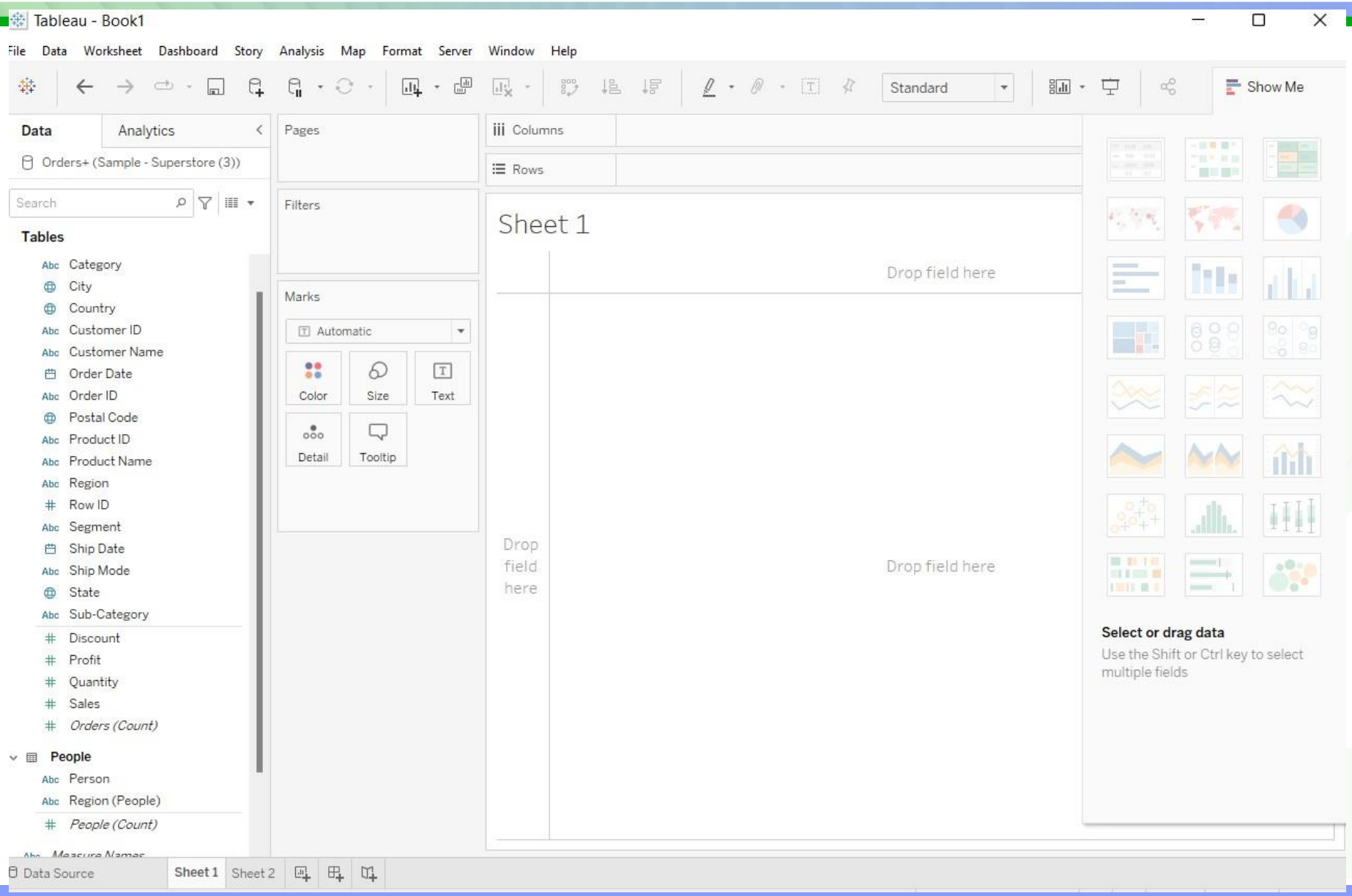


Tableau -
Go to Start
File Data Worksheet Dashboard Story Analysis Map Format Server Window Help
Data Pane
Pills
Fit
Standard
Show Me
Data
Analytics
Orders (My Superstore)
Dimensions
Abc Order ID
Postal Co
Abc Product ID
Abc Product Name
Abc Region
Row ID
Abc Segment
Ship Date
Abc Ship Mode
State
Abc Sub-Category
Data Source
Measures
Discount
Profit
Quantity
Sales
Latitude (generated)
Longitude (generated)
Number of Records
Sets
City Set
Parameters
Shipping Cost Parameter
Pages
Filters
Country: ited Stat..
Region
Marks
All
SUM(Sales)
Bar
Color
Size
Label
Detail
Tooltip
Category
AVG(Discount)
Shelves
Columns
MONTH(Order Da..
Rows
Category
SUM(Sales)
AVG(Discount)
Sample Worksheet
Category
Furniture
Office Supplies
Technolo..
Sales
$40K
$20K
$0K
Discount
30%
20%
10%
0%
2012
2013
2014
2015
2016
Month of Order Date
View
Region
(All)
Central
East
South
West
Displayed Filter
Category
Furniture
Office Supplies
Technology
Legends
Measure Names
Discount
Caption
The trends of sum of Sales and Discount for Order Date Month broken down by Category. For pane Sum of Sales: Color shows details about Category. For pane Average of Discount: Color shows details about Discount. The data is filtered on
Data Source
Data Source Tab
Status Bar
288 marks
3 rows by 1 column
SUM of AVG(Discount): 2221%

Navigation Toolbar



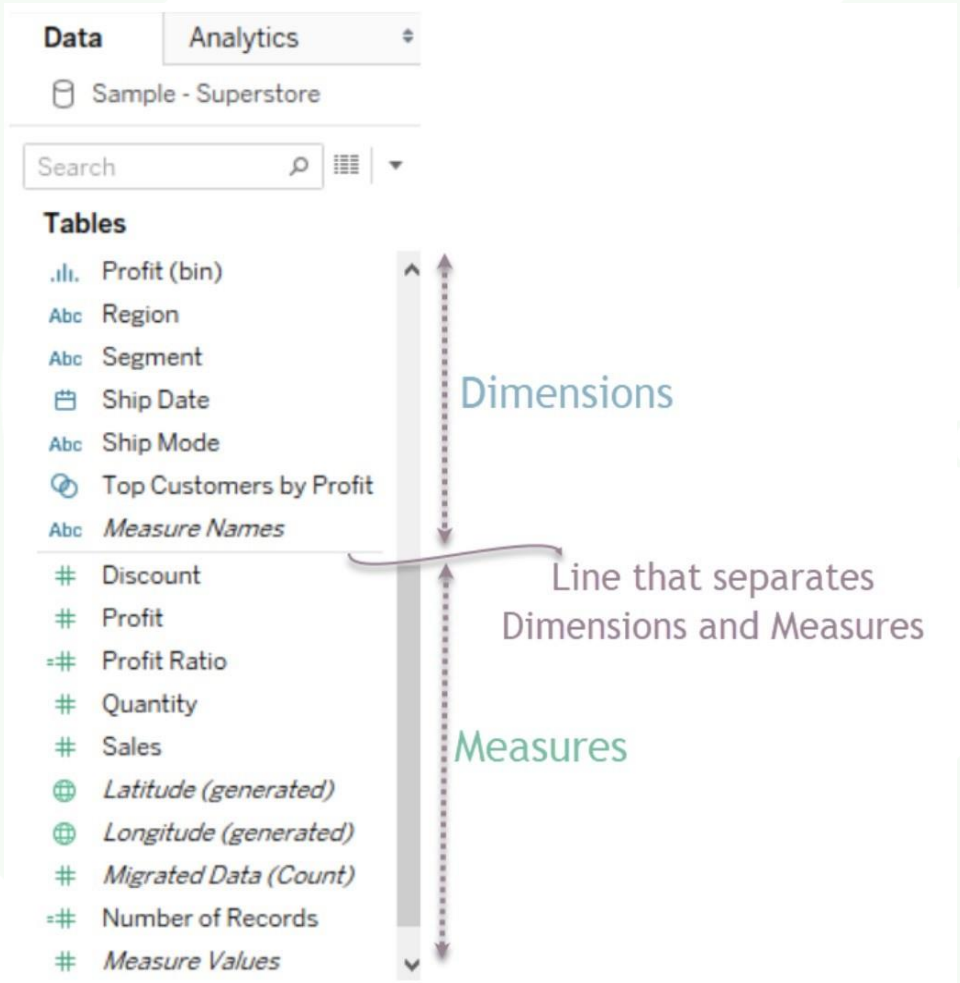
Show me function



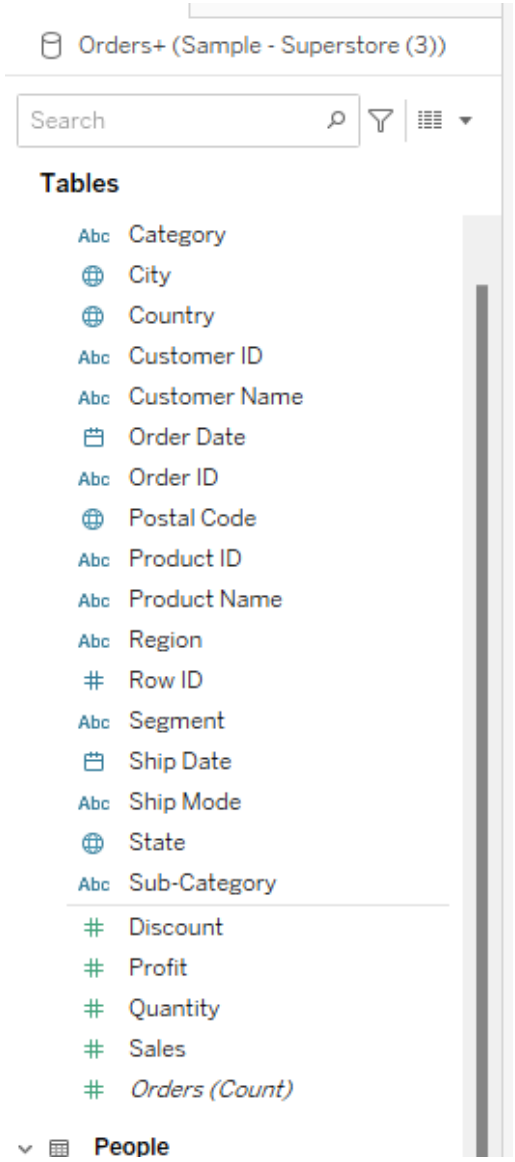
Data Pane

Data Pane

- **Dimensions** include qualitative values (names, dates, geographical values, etc.).
- **Measures** include quantitative values (sales, profit, amount, etc.)



Data Pane



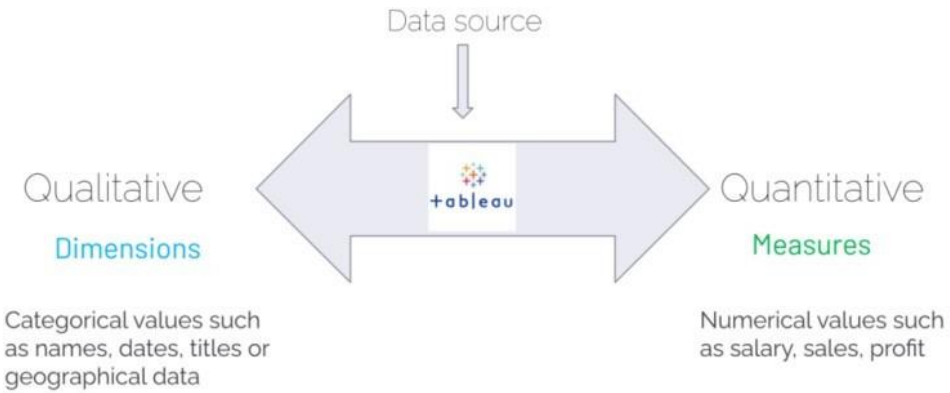
Dimension is used to seperate the details of our data into categories, sections and subsections.

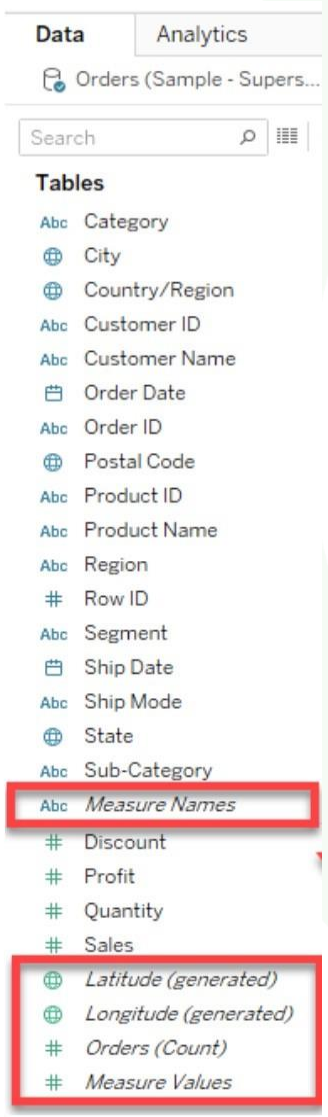
Measure is used to merge and calculate values based on their fields.

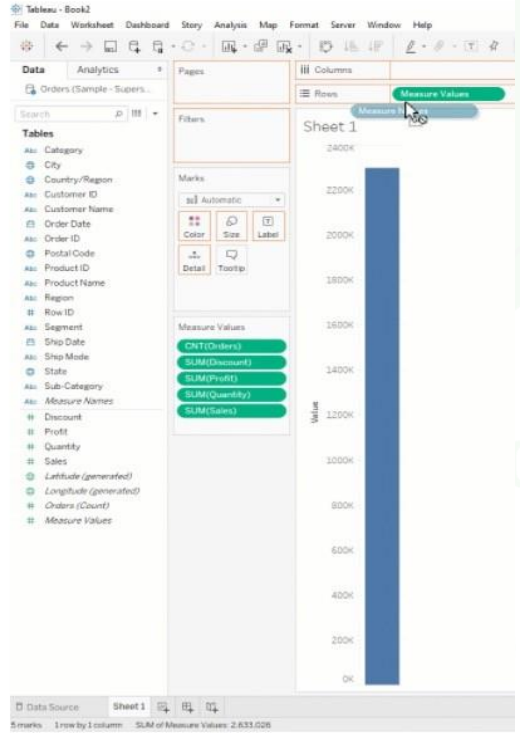
Data Pane

Data Pane

- **Measure Values field**
- **Measure Names field**
- **NameofTable(Count) field ,**







Automatically created Fields

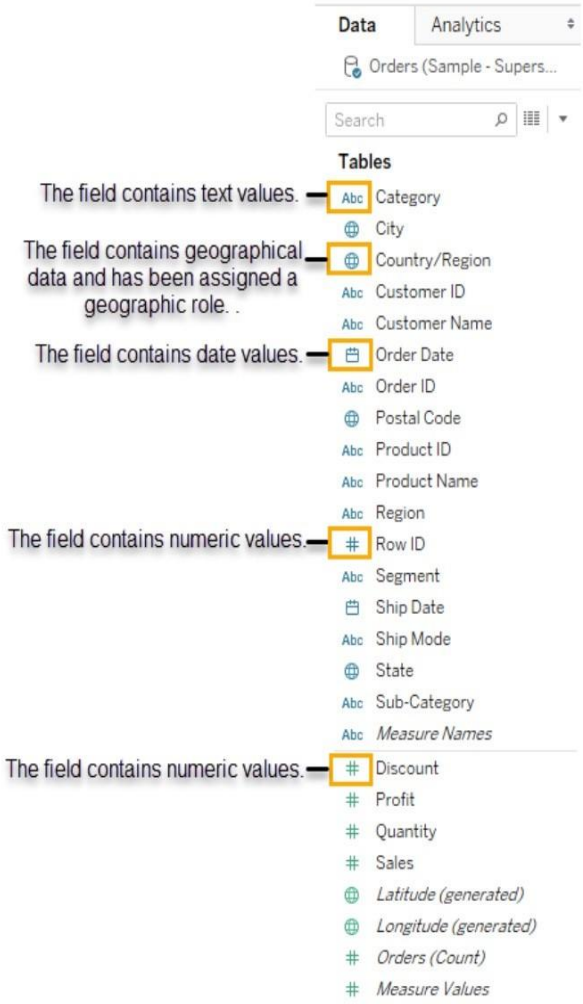
Data Pane

Data Pane

- Blue colour represents that the field is discrete.
- Green colour represents that the field is continuous.

Data Type	Icon
String values (Text)	Abc
Integer values (Numbers)	#
Date values (DD/MM/YYYY or MM/DD/YYYY)	
Date & Time values	
Boolean values (True or False; relational)	T|F
Geographic values (Region, Postal code etc.)	
Cluster group or mixed values	

Icon	Data type
Abc	*Text (string) values*
	Date values
	Date & Time values
#	*Numerical values*
T|F	*Boolean values (relational only)*
	Geographic values (used with maps)



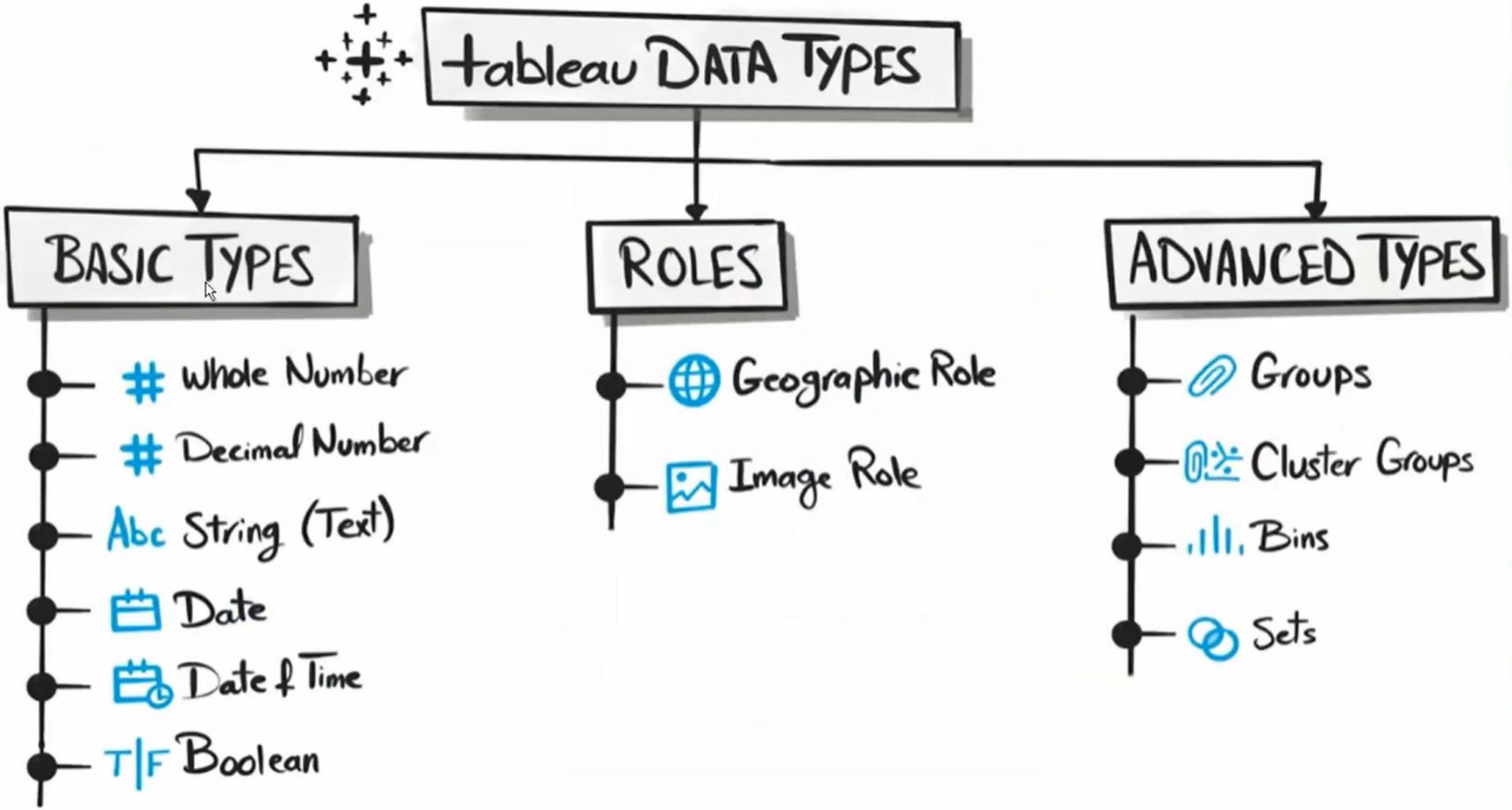


tableau DATA TYPES
BASIC TYPES
Whole Number
Decimal Number
String (Text)
Date
Date & Time
Boolean
ROLES
Geographic Role
Image Role
ADVANCED TYPES
Groups
Cluster Groups
Bins
Sets

Discrete vs. Continous

Blue pill

DISCRETE

individually separate and distinct

treated as finite

generally add headers to the view

Green pill

CONTINUOUS

forming an unbroken whole, without interruption

treated as an infinite

generally add axes to the view

Blue pill

DISCRETE

Product Category

Segment

Country

Age

Green pill

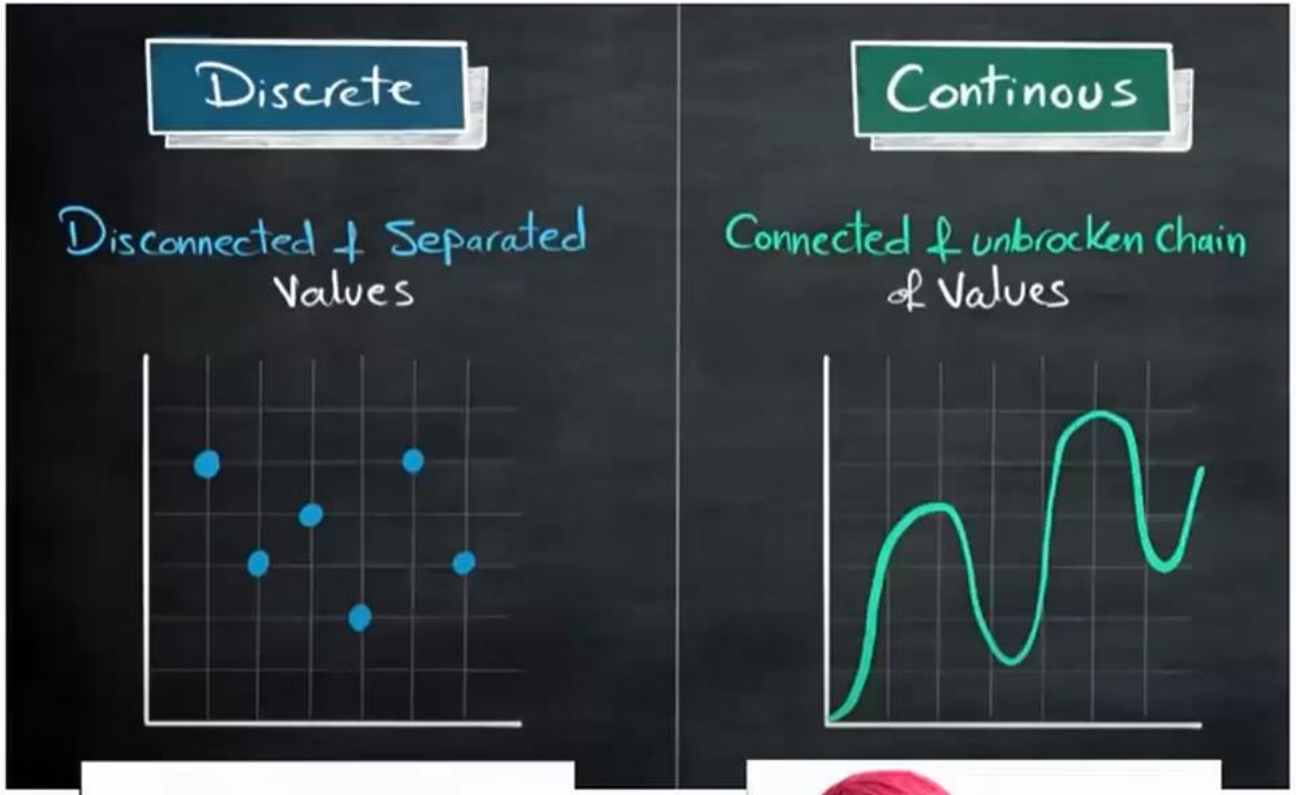
CONTINUOUS

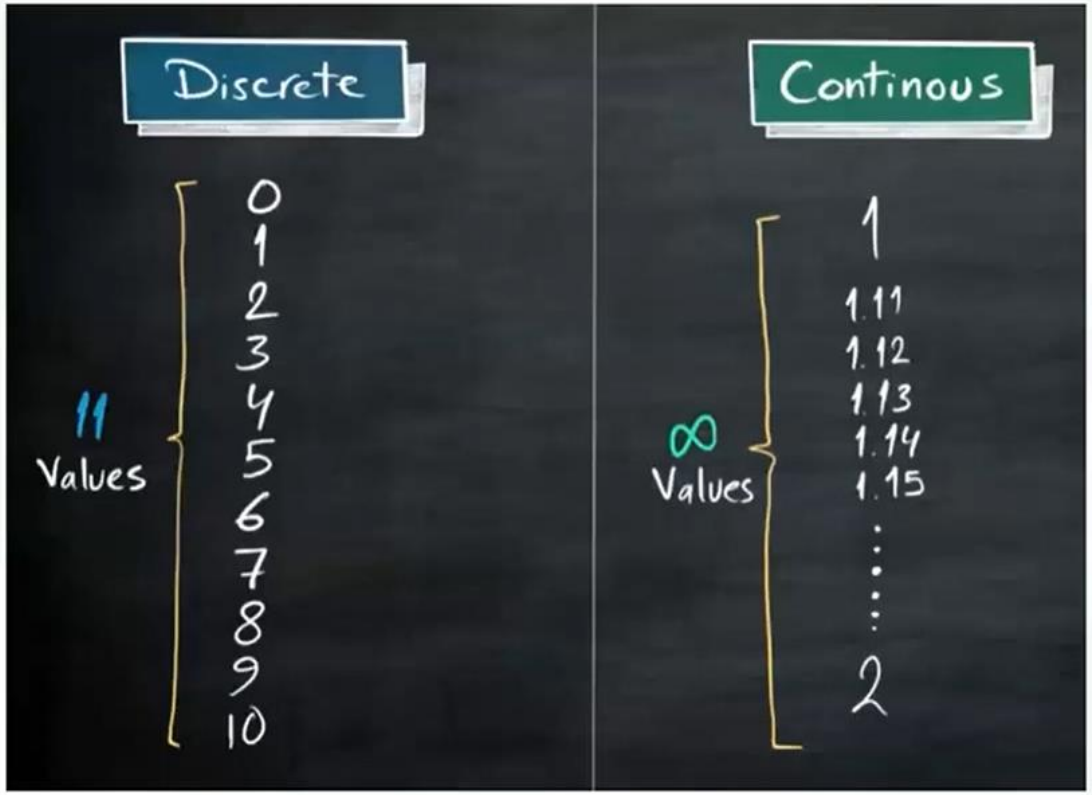
Revenue

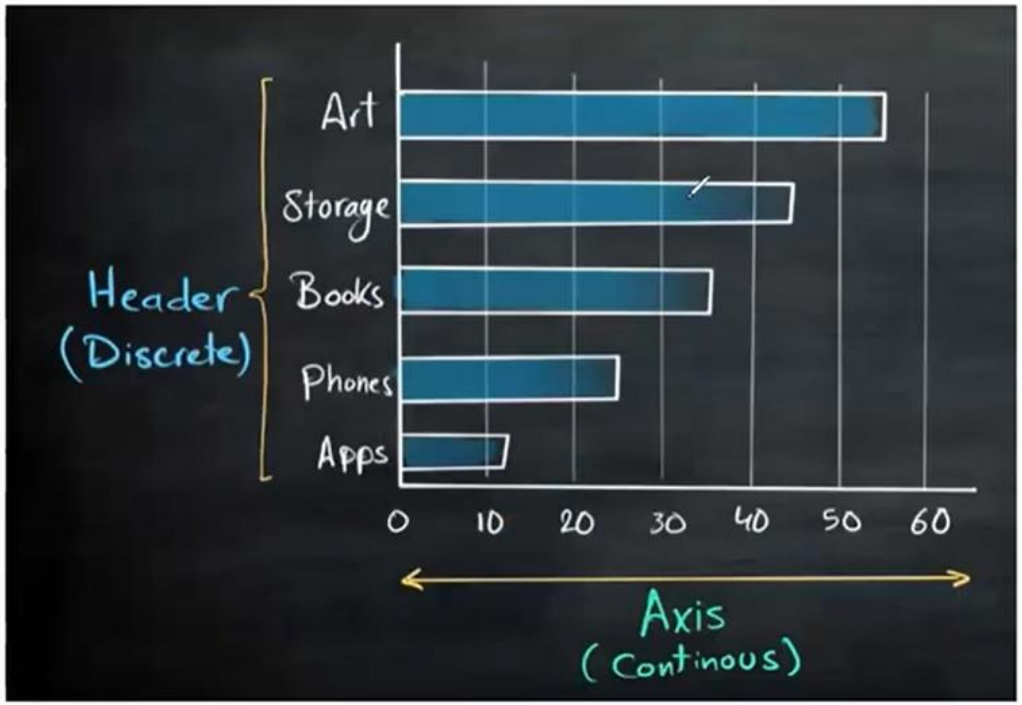
Population

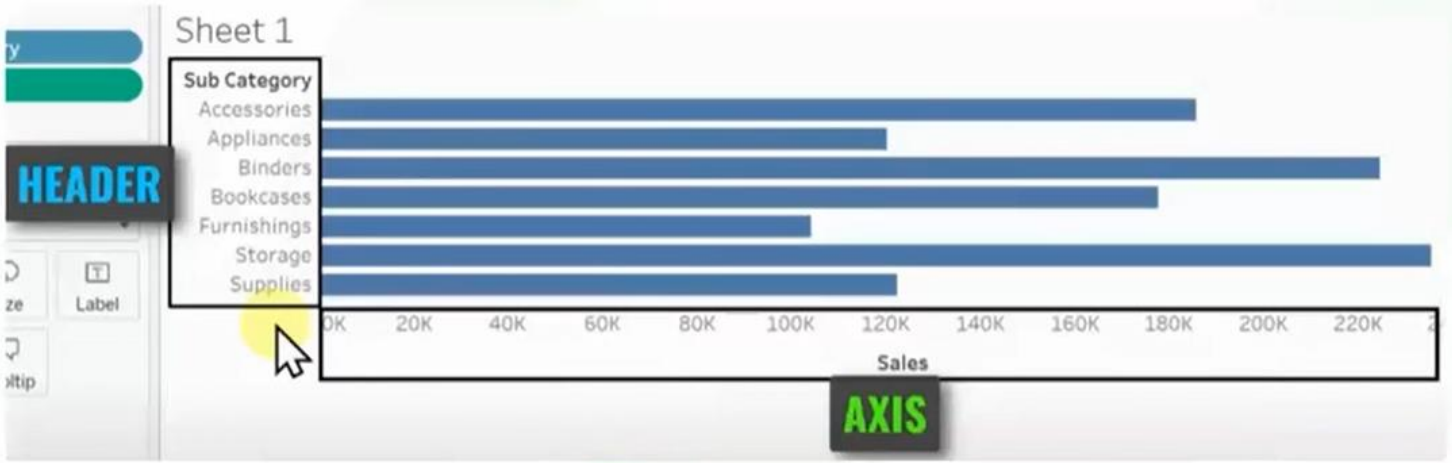
Profit

Age


Discrete
Disconnected & Separated Values
Continous
Connected & unbrocken Chain of Values


Discrete
11 Values
0
1
2
3
4
5
6
7
8
9
10
Continous
∞ Values
1
1.11
1.12
1.13
1.14
1.15
2





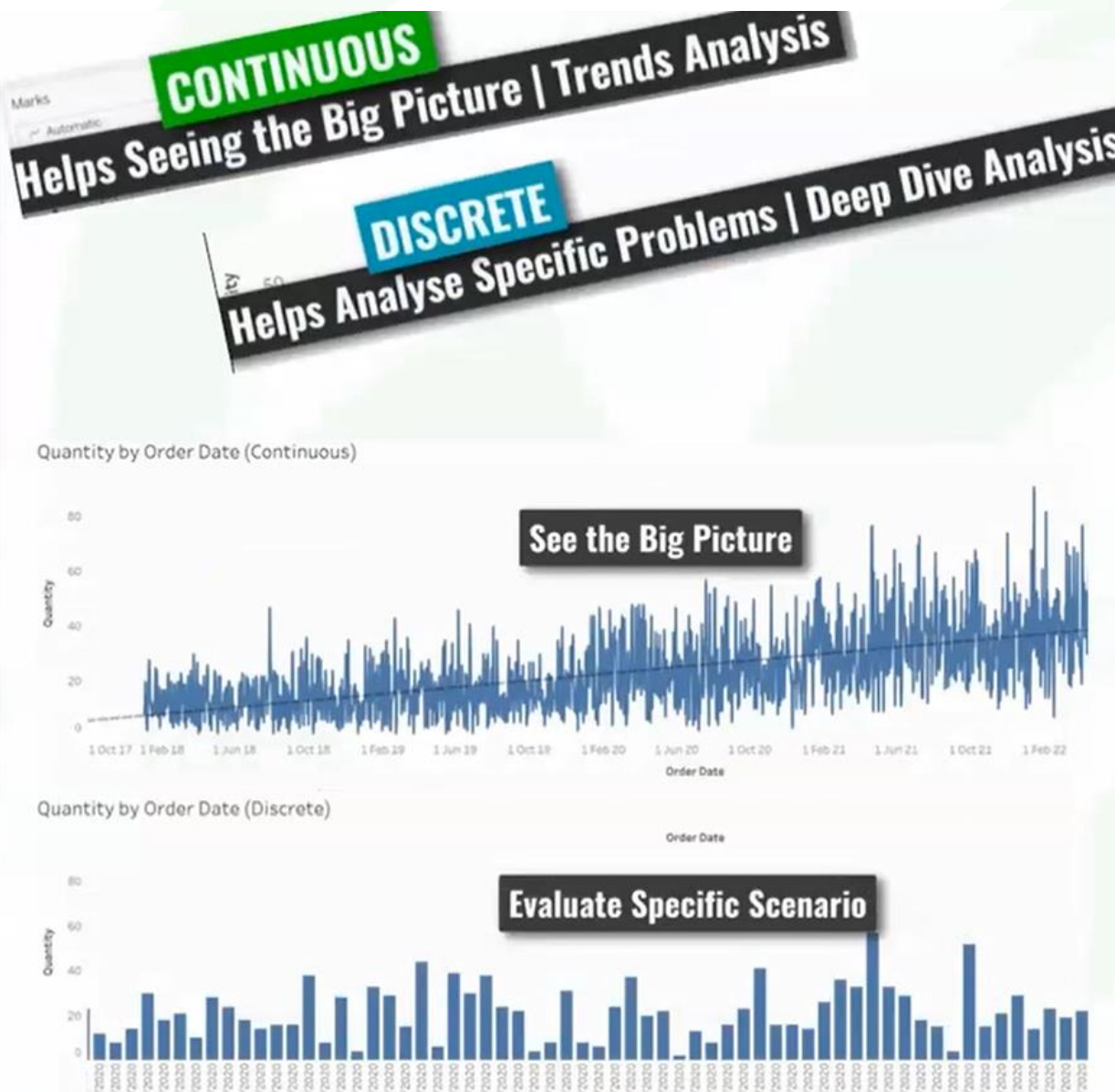
HEADER

Shows All Members of a Field Individually

AXIS

Shows Range of Values Between Start and End Values


Discrete
Purpose:
Deep Dive Analysis
Jan
Feb
Mar
Apr
Continous
Purpose:
Big Picture Analysis

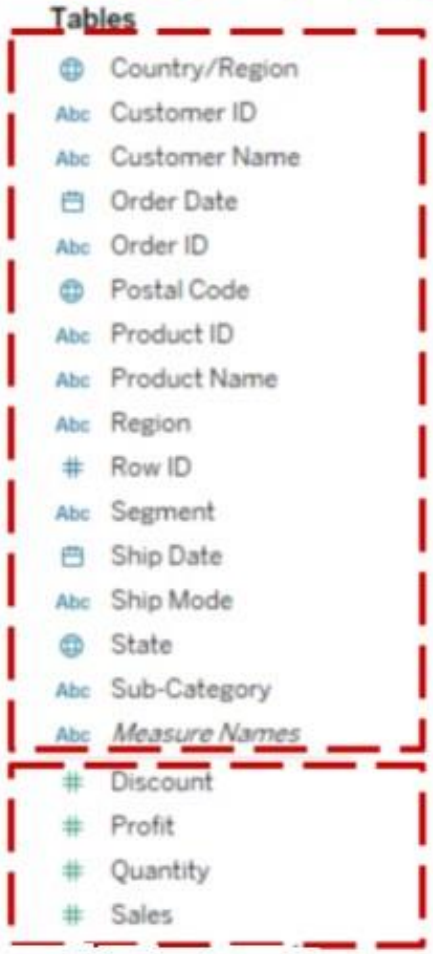

CONTINUOUS
Helps Seeing the Big Picture | Trends Analysis
DISCRETE
Helps Analyse Specific Problems | Deep Dive Analysis
Quantity by Order Date (Continuous)
See the Big Picture
Quantity
Order Date
Quantity by Order Date (Discrete)
Order Date
Evaluate Specific Scenario
Quantity

Question time..

What is the type of OrderID field? Dimension or measure?

Discrete vs. Continous

The 4 Roles of Fields



Dimensions with a data type of String or Boolean cannot be continuous

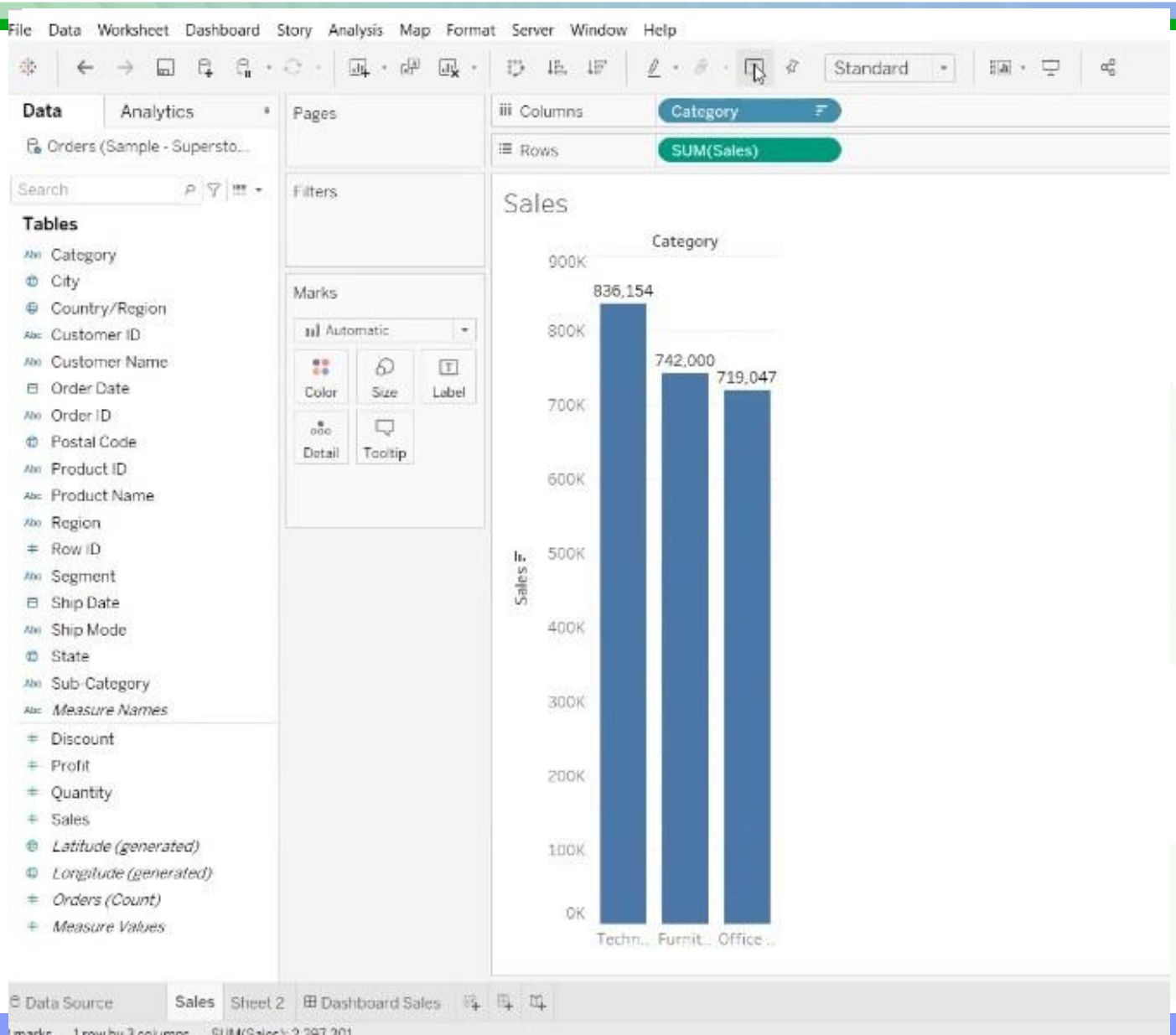
Dimension DISCRETE

Dimension CONTINUOUS

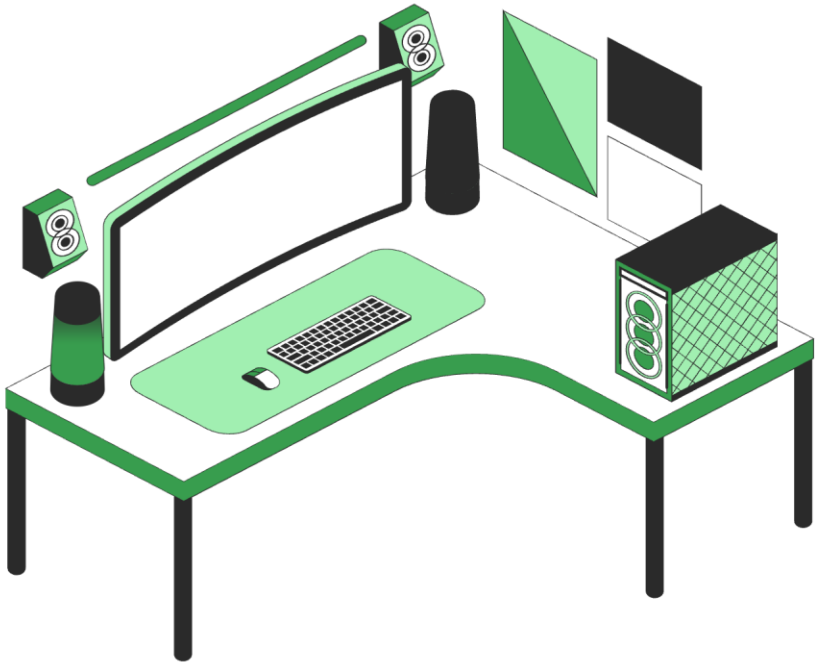
Measure DISCRETE

Measure CONTINUOUS

Toolbars Tryings



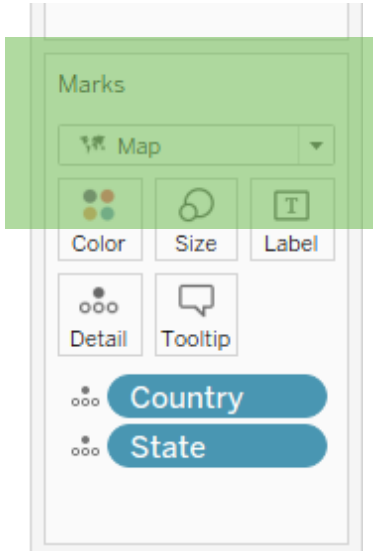
FINISH

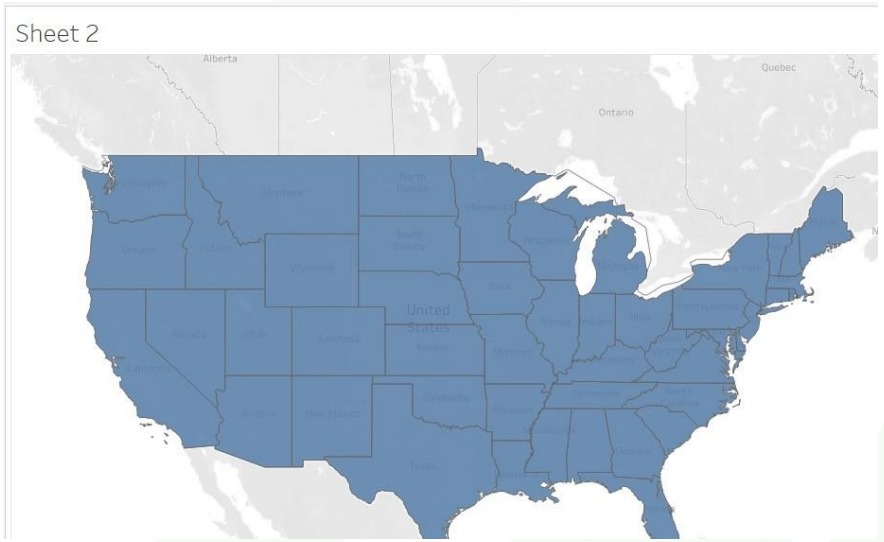


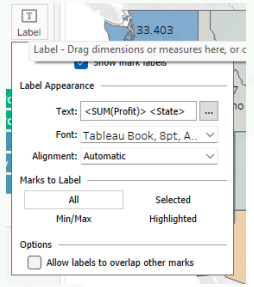
Do you have any questions?

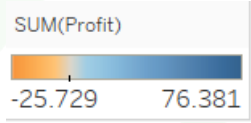
Send it to us! We hope you learned something new.

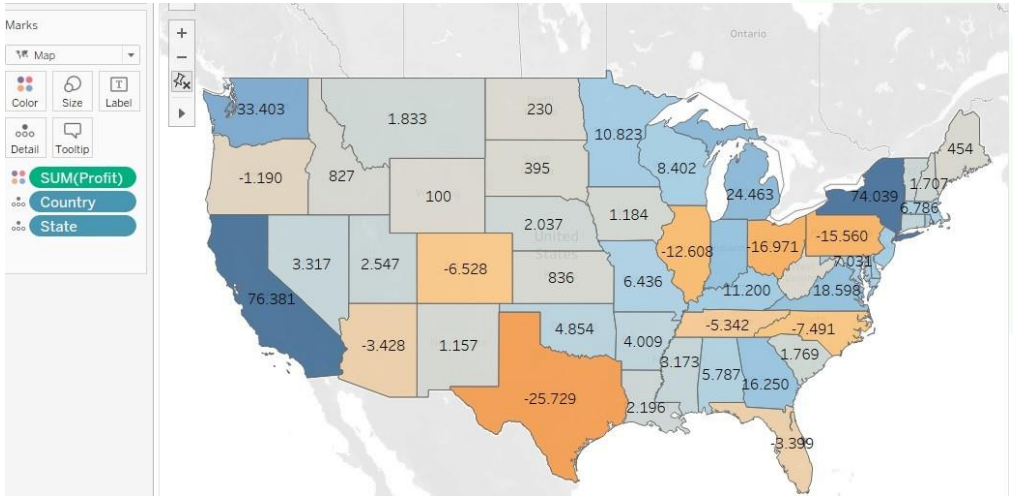
- Abc Category
- City
- Country
- Abc Customer ID
- Abc Customer Name
- Order Date
- Abc Order ID
- Postal Code
- Abc Product ID
- Abc Product Name
- Abc Region
- # Row ID
- Abc Segment

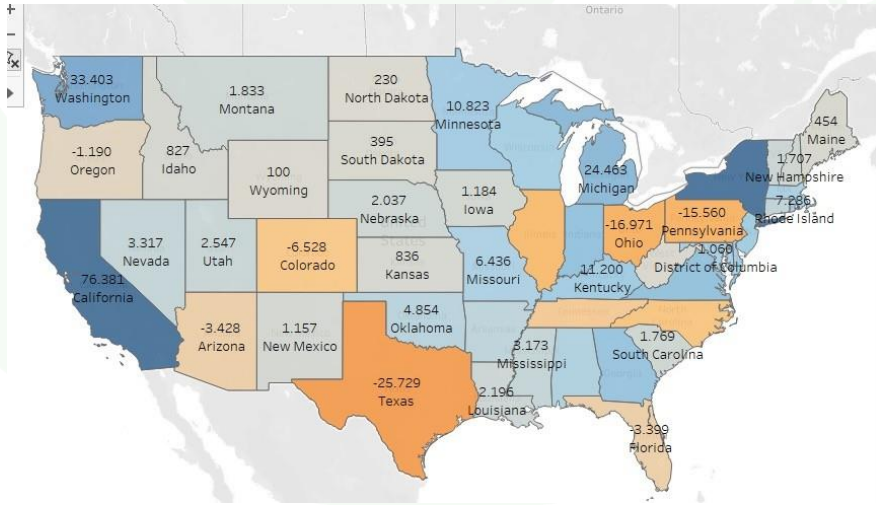












Sample – Hands On..