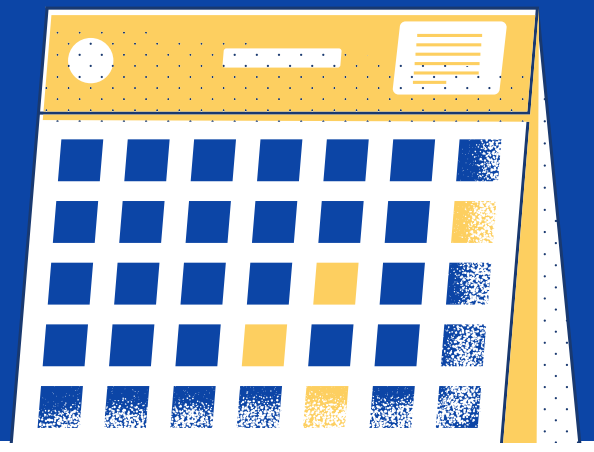
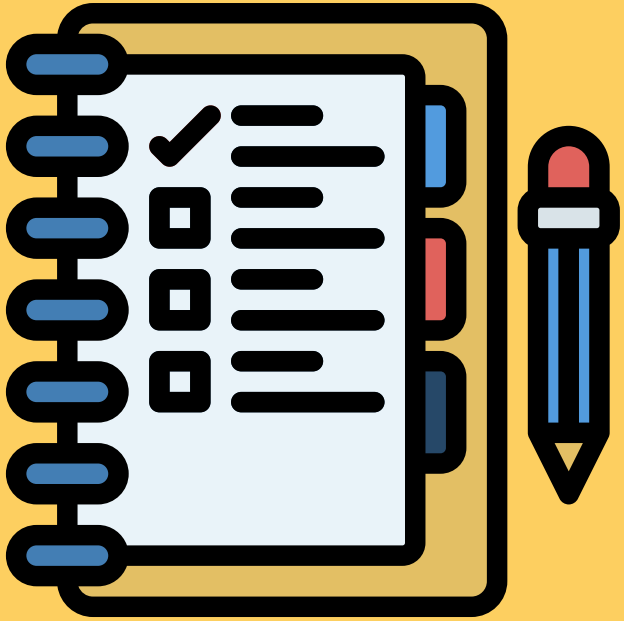
Data Fundamentals

Spreadsheets
Part 3 - Part 4

GOALS



- Our goal is to analyze the financial data and extract meaningful insights regarding revenue trends and performance over the fiscal years.
- We will review the previous session's content and build upon it to deepen our understanding of financial data analysis.
- Through the application of various functions and visualization techniques, we will uncover key patterns, trends, and relationships within the provided data.

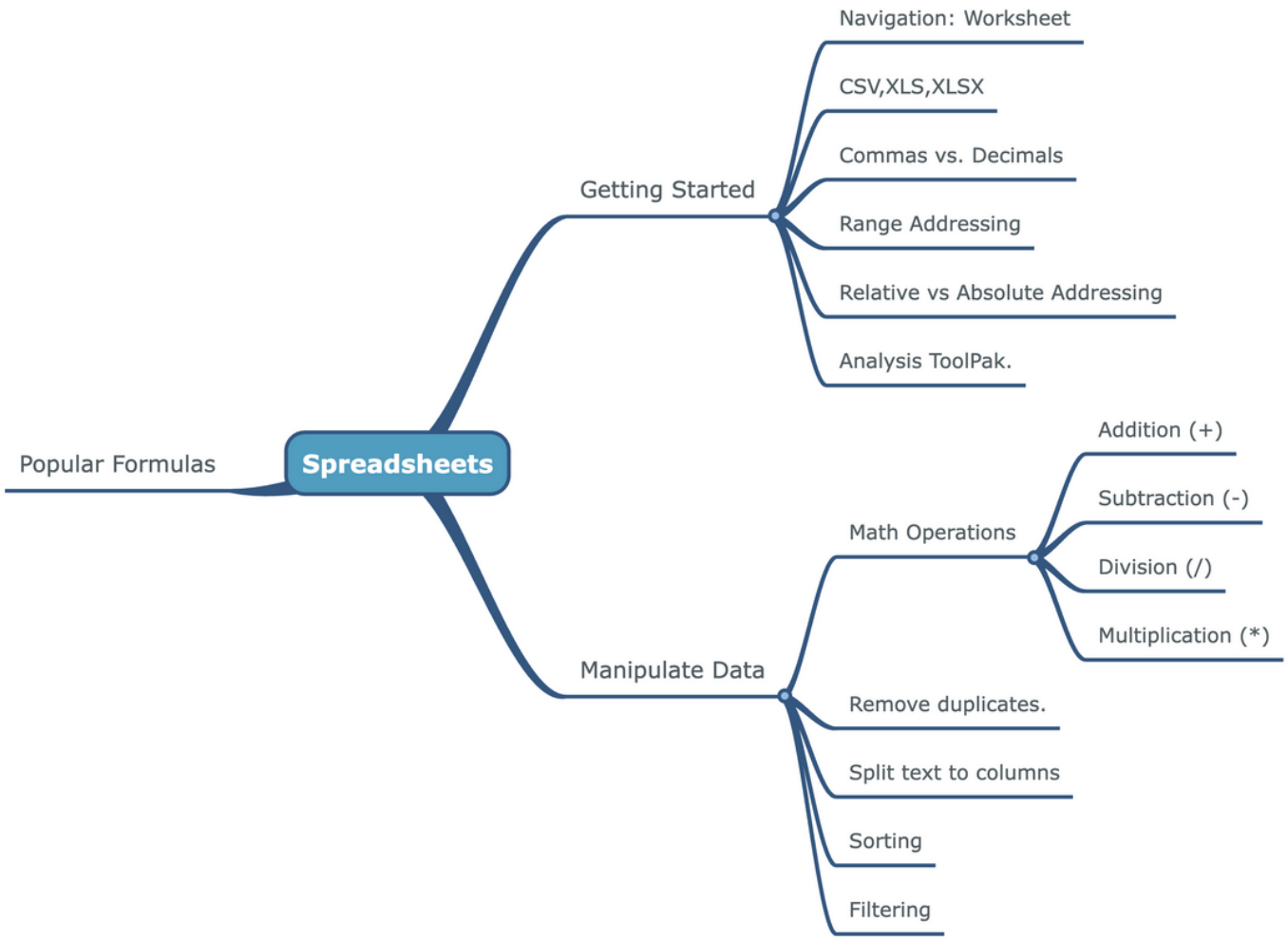


AGENDA

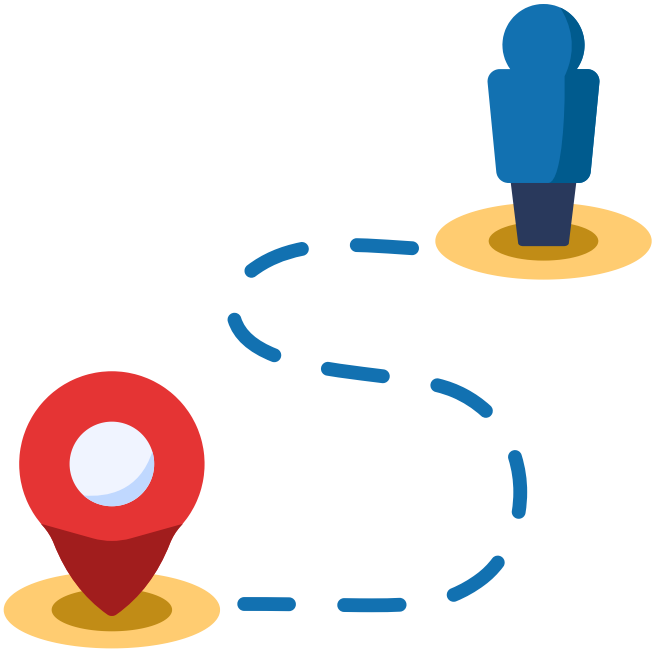
- Welcome
- Review & Roadmap
- Aggregation Functions
- Comparison Operators
- Logical Functions
- Conditional Aggregation
- Pivot Tables
- Named Ranges
- Lookup Functions
- Visualize Data
- Q&A

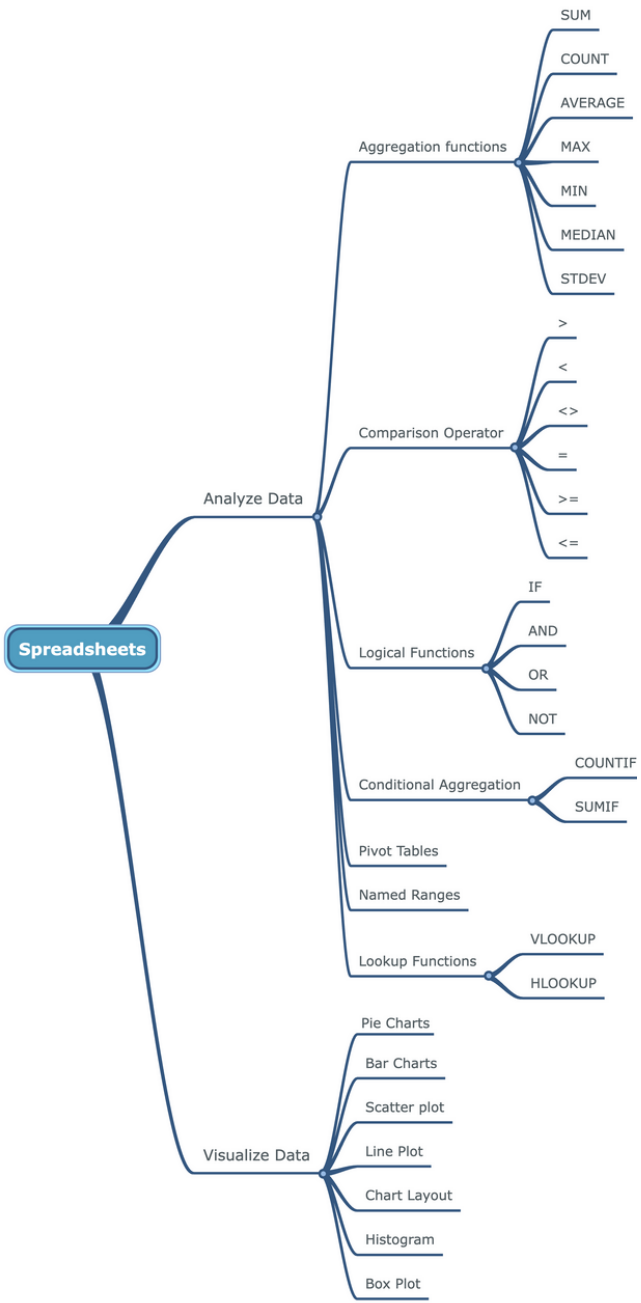
Behind every data point, there's a story waiting to be told.

REVIEW


Spreadsheets
Popular Formulas
Getting Started
Navigation: Worksheet
CSV,XLS,XLSX
Commas vs. Decimals
Range Addressing
Relative vs Absolute Addressing
Analysis ToolPak.
Manipulate Data
Math Operations
Addition (+)
Subtraction (-)
Division (/)
Multiplication (*)
Remove duplicates.
Split text to columns
Sorting
Filtering

ROADMAP




Spreadsheets
Analyze Data
Aggregation functions
SUM
COUNT
AVERAGE
MAX
MIN
MEDIAN
STDEV
Comparison Operator
>
<
<>
=
>=
<=
Logical Functions
IF
AND
OR
NOT
Conditional Aggregation
COUNTIF
SUMIF
Pivot Tables
Named Ranges
Lookup Functions
VLOOKUP
HLOOKUP
Visualize Data
Pie Charts
Bar Charts
Scatter plot
Line Plot
Chart Layout
Histogram
Box Plot

ANALYZING FINANCIAL DATA

Today, we will dive into the financial data of Bank Muscat **SAOG** and apply various functions and visualization techniques to gain insights into its revenue trends and performance over the fiscal years.

AGGREGATION FUNCTIONS

Example	Function	Result
Calculate the total revenue.	=SUM(data!C2:C11)	$ 3,852.01
Count the number of years for which data is available.	=COUNT(data!A2:A11)	10
Calculate the average revenue growth rate.	=AVERAGE(data!D2:D11)	4.29%
Find the maximum revenue growth rate.	=MAX(data!D2:D11)	10.60%
Find the minimum revenue growth rate.	=MIN(data!D2:D11)	-9.70%
Find the median revenue growth rate.	=MEDIAN(data!D2:D11)	5.40%
Calculate the standard deviation of revenue growth.	=STDEV(data!D2:D11)	6%

COMPARISON OPERATORS & LOGICAL FUNCTIONS

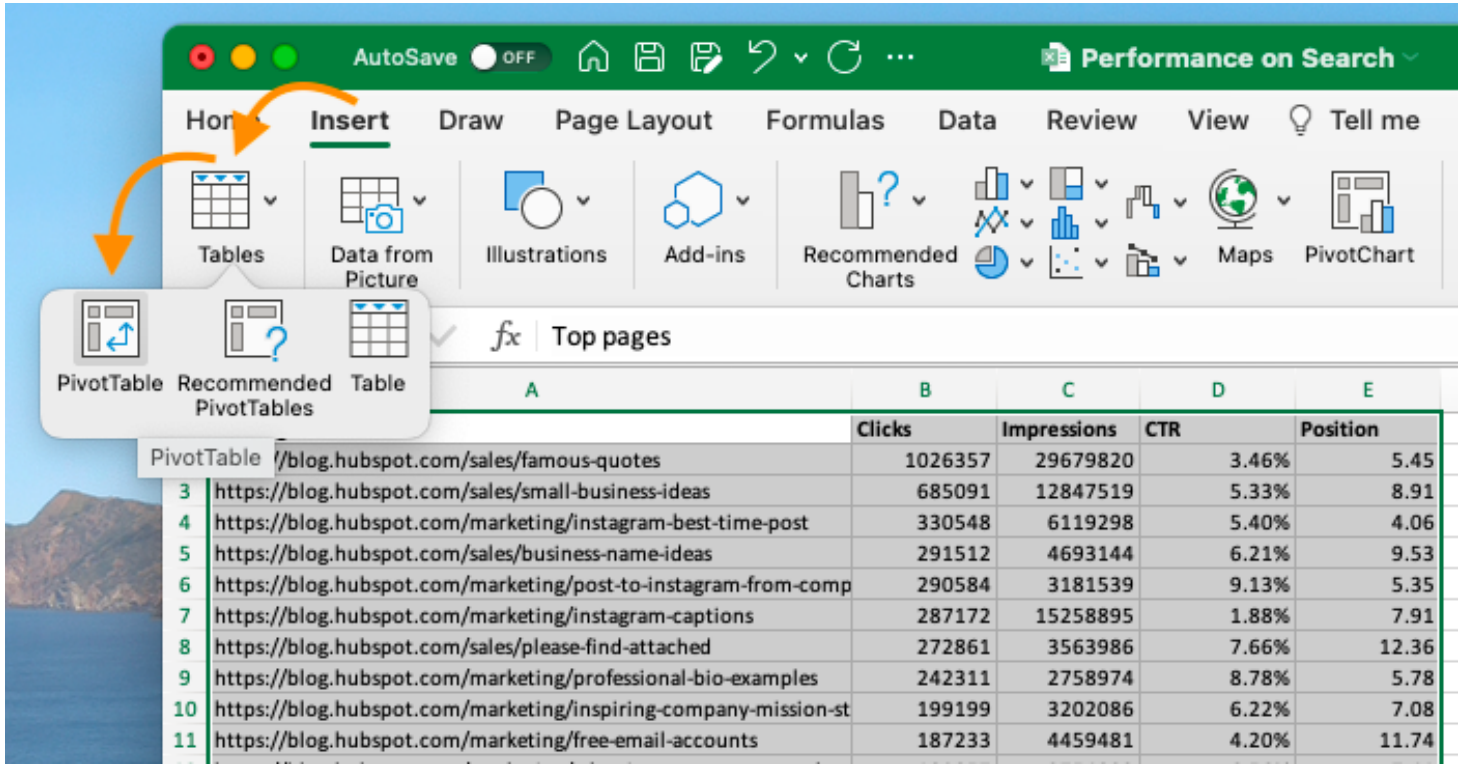
Identify the relationship between each year's revenue and the mean

Revenue	Year	Higher > 385.2007	Lower < 385.2007	Higher or equal >= 385.2007	Lower or equal <= 385.2007	Equal = 385.2007	Not Equal <> 385.2007
317.617	2013	No	Yes	No	Yes	No	Yes
343.501	2014	No	Yes	No	Yes	No	Yes
366.613	2015	No	Yes	No	Yes	No	Yes
377.324	2016	No	Yes	No	Yes	No	Yes
392.687	2017	Yes	No	Yes	No	No	Yes
403.494	2018	Yes	No	Yes	No	No	Yes
416.044	2019	Yes	No	Yes	No	No	Yes
375.501	2020	No	Yes	No	Yes	No	Yes
415.43	2021	Yes	No	Yes	No	No	Yes
443.796	2022	Yes	No	Yes	No	No	Yes

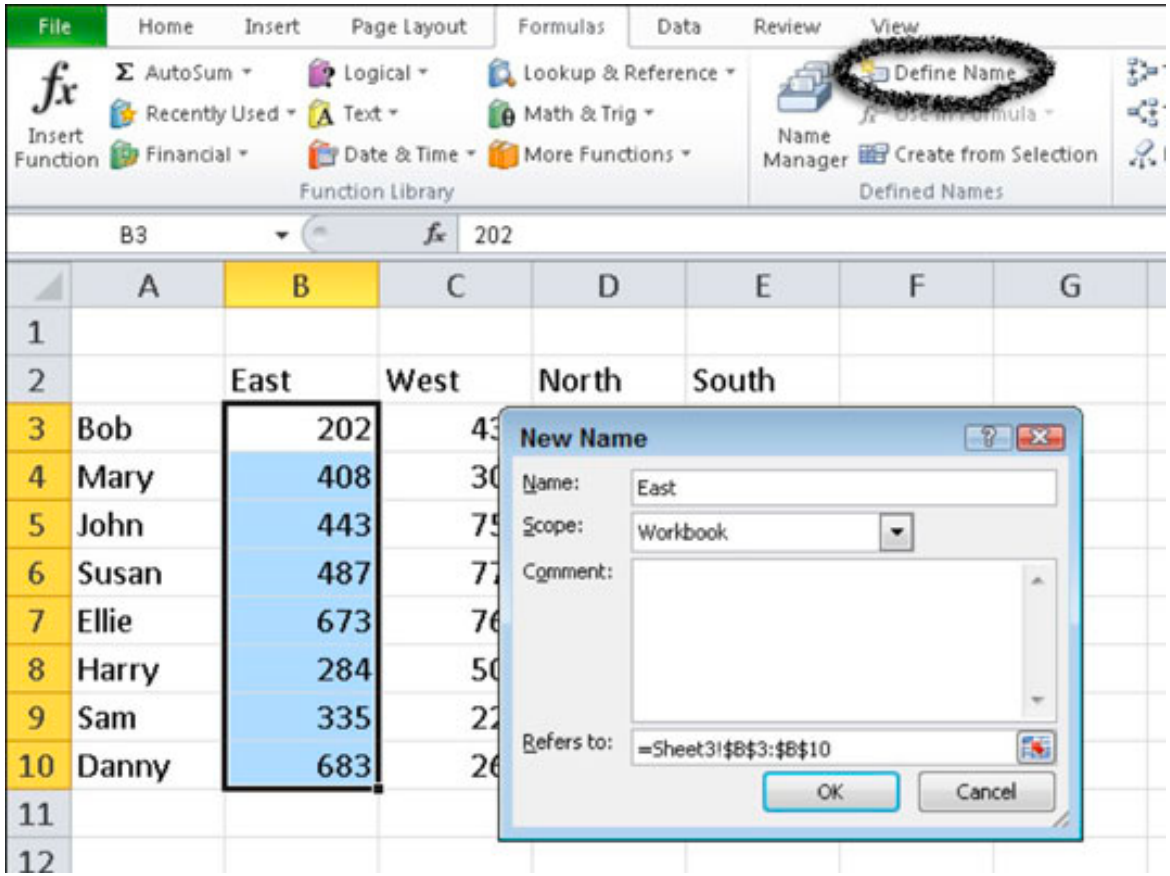
CONDITIONAL AGGREGATION

Example	Function	Result
Calculate the total revenue for years where the revenue is greater than 400 million	=SUMIFS(data!C2:C11,data!C2:C11,">400")	$ 1,678.76
Count the number of years where the revenue is greater than 400 million	=COUNTIFS(data!C2:C11,">400")	4

PIVOT TABLES

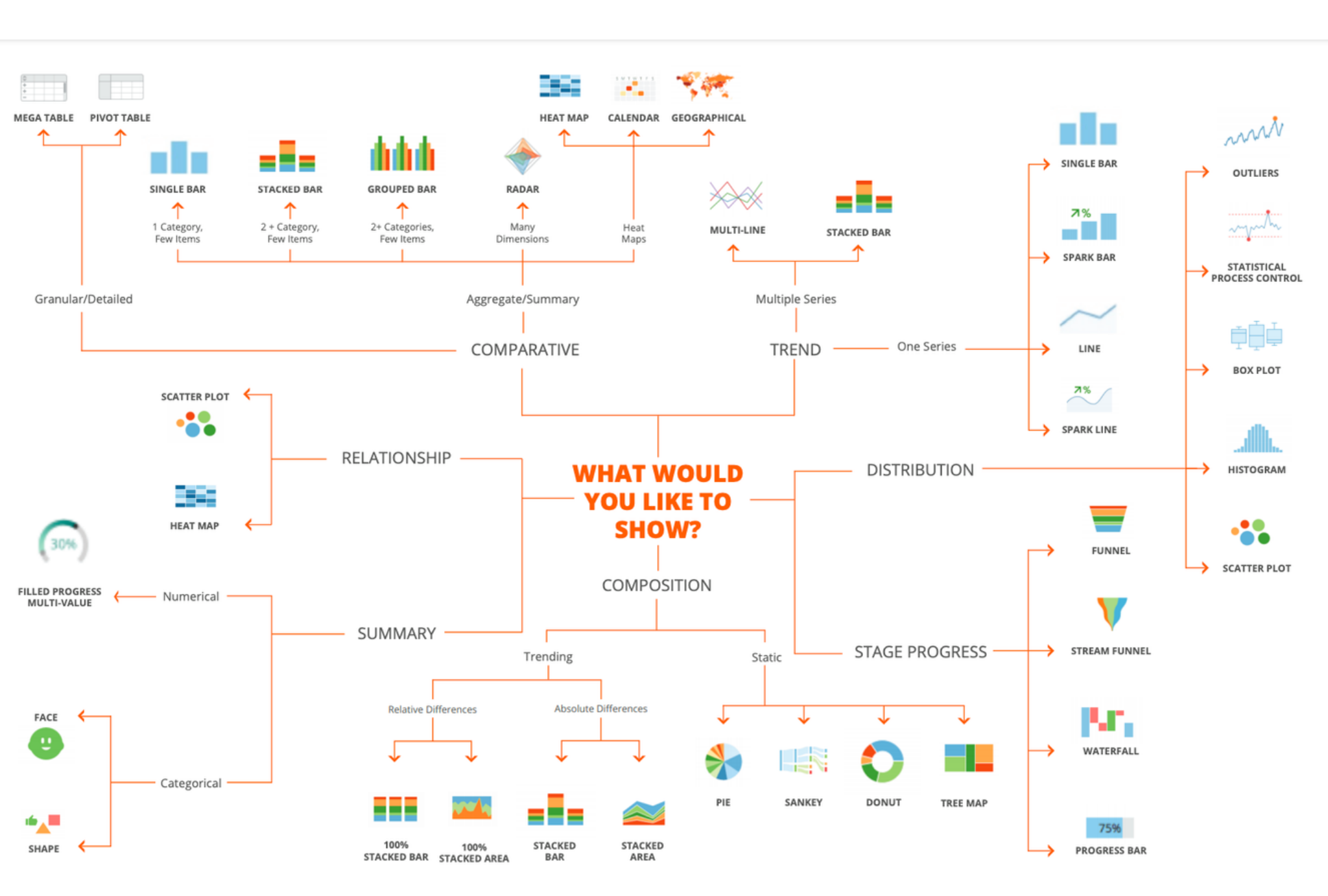


NAMED RANGES

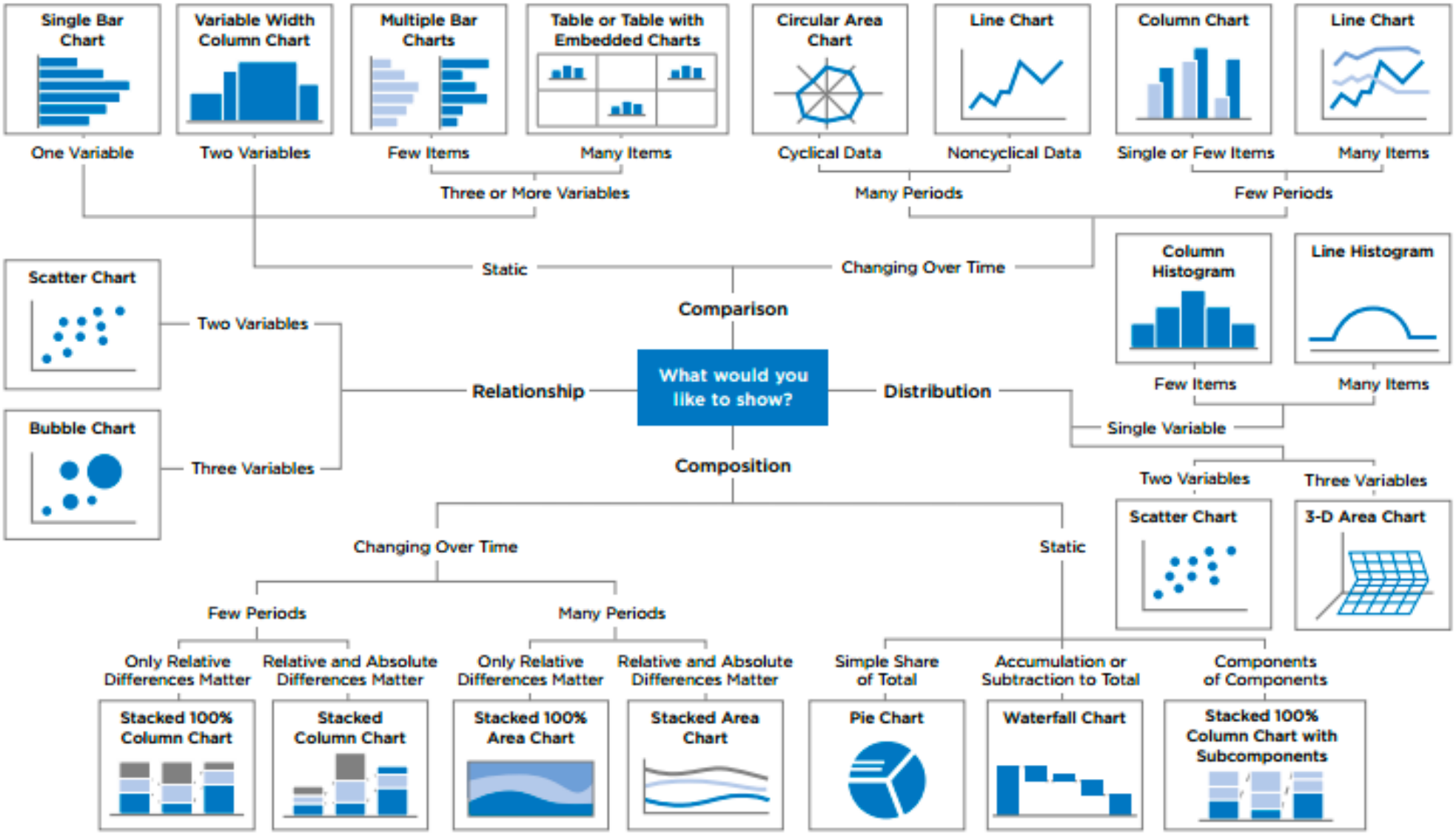


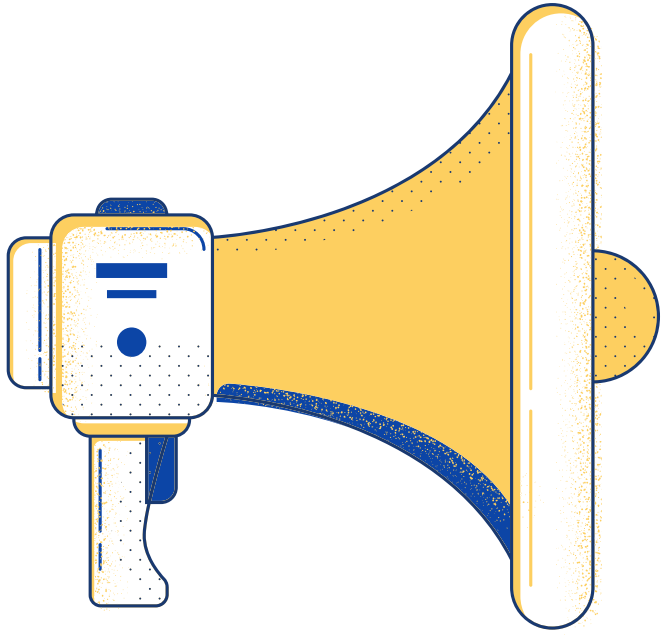
LOOKUP FUNCTIONS

Example	Function	Result
Use VLOOKUP to retrieve the revenue for a specific year	=VLOOKUP(2019, data!A2:C11, 3, FALSE)	$ 416.044


MEGA TABLE
PIVOT TABLE
HEAT MAP
CALENDAR
GEOGRAPHICAL
SINGLE BAR
STACKED BAR
GROUPED BAR
RADAR
1 Category, Few Items
2 + Category, Few Items
2+ Categories, Few Items
Many Dimensions
Heat Maps
MULTI-LINE
STACKED BAR
SINGLE BAR
SPARK BAR
LINE
SPARK LINE
OUTLIERS
STATISTICAL PROCESS CONTROL
BOX PLOT
HISTOGRAM
SCATTER PLOT
Granular/Detailed
Aggregate/Summary
Multiple Series
COMPARATIVE
TREND
One Series
SCATTER PLOT
HEAT MAP
RELATIONSHIP
DISTRIBUTION
WHAT WOULD YOU LIKE TO SHOW?
30%
FILLED PROGRESS MULTI-VALUE
Numerical
SUMMARY
COMPOSITION
FUNNEL
STREAM FUNNEL
WATERFALL
75%
PROGRESS BAR
STAGE PROGRESS
Trending
Static
Relative Differences
Absolute Differences
FACE
SHAPE
Categorical
100% STACKED BAR
100% STACKED AREA
STACKED BAR
STACKED AREA
PIE
SANKEY
DONUT
TREE MAP

SELECTING THE APPROPRIATE CHART FOR STRATEGY PRESENTATIONS





Q&A Session: Let's explore and understand together

RESOURCES

- Named range
- Pivot tables
- Pivot tables
- Lookup
- Conditional aggregation
- Pie chart
- Line chart
- Scatter plot
- Box plot
- Best Practices for Choosing Chart Types

Your presence today has added value to our shared learning journey. Thank you for joining us!