SQL Data Analyst Project

Advanced Data Analytics

"Answer business Qutions"

- complex Quries
- window Functions
- CTE
- Subqueries
- Reports

Change-over-Time Trends

- Analyze how a measure evolves over time.
- Helps track trends and identify seasonality in your data.

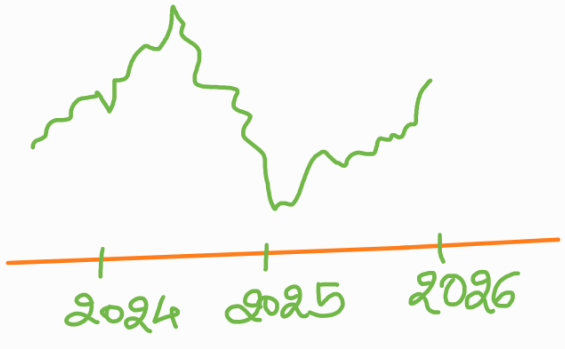
→ Formula:

Σ [Measure] By [Date Dimension]

Ex. Total sales by year
Average cost by month

- For this kind of Analys usally we torget fact table. Beause t heirwe have measures & Dates.

2024	300
2025	100
2026	200



Cumulative Analysis

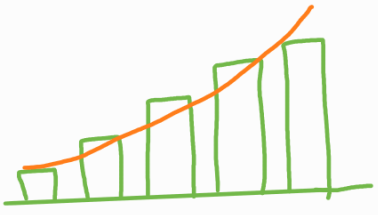
- Aggregate the data proactively over time.
- Understand wheather our business is growing or declining

→ Formula :-

Σ [Cumulative measure] By [Date Dimension]

Ex. Running total sales by year
Moving Average of Sales by month

2024	300	300 ← Cumulative
2025	100	400
2026	200	600



NOTE: Window Functions for this Analysis

Performance Analysis

- Comparing the current value to a target value.
- Helps measure success and compare performance.

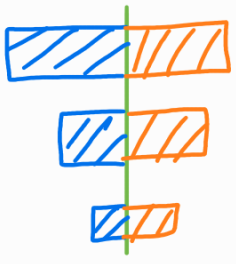
→ Formula :-

Current [measure] - Target [measure]

Ex: current Sales - Average Sales
current Year Sales - Previous year Sales
→ YoY Analysis

current Sales - lowest Sales

	current	target (Avg)	Performance
A	200	200	0
B	300	200	100
C	100	200	100



NOTE: WINDOW Fun^n [Agg. windowFunction / value window fun^n]

Part-to-whole Propotional Analysis

-Analyze how an individual part is performing Compared to the overall, allowing us to understand which category has the greatest impact on the business.

→ Formula:-

([measure] / Total [measure]) * 100 By [Dimension]

Ex. (Sales/Total sales)*100 By category

(Quantity/Total Quantity)*100 By country

A	200	33 %
B	300	50 %
C	100	17 %

Data Segmentation

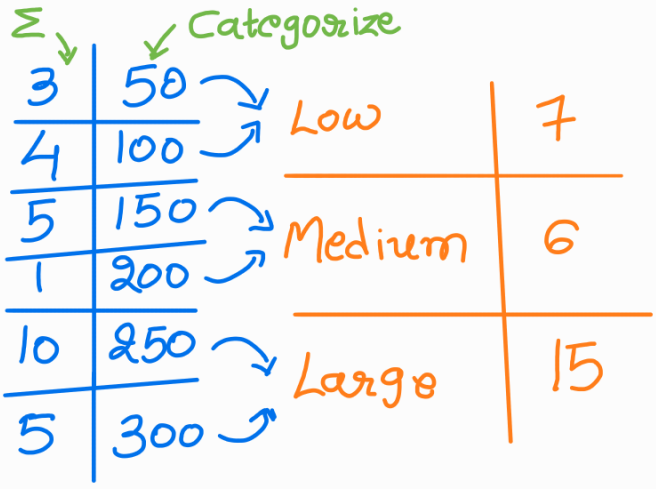
-Group the data based on a specific range. Help understand the correlation between two measures.

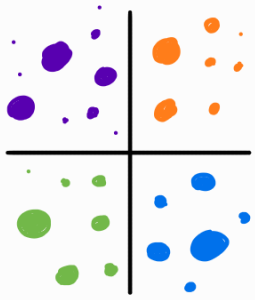
→ Formula:-

[measure] by [measure]

Ex. Total Products by Sales Range

Total Customers by Age





NOTE:- CASE WHEN STATEMENT

Use