

Advanced Metrics & DAX Measures

- What is the overall profit margin ($\text{Profit} \div \text{Sales}$) by Product Category and how does it trend monthly?
- Create a dynamic measure to show YoY growth in Sales and Profit.
- What is the average shipping delay ($\text{Ship Date} - \text{Order Date}$) per Region and how does it affect Profit?
- Which Segment has the highest average discount but lowest profit margin?
- Create a rank measure for Top 10 Products based on Sales in each Region using DAX.
- Create a dynamic time-period slicer (Month, Quarter, Year) to switch between aggregations.
- Build a KPI card for cumulative Sales vs target Sales (assume a fixed target per month).
- Calculate the correlation between Discount and Profit by Sub-Category.
- Build a moving average (e.g., 3-month) for Sales and show it alongside actual Sales.
- How does Order Priority impact delivery delay and profitability?

Time Intelligence

- Show MoM and QoQ growth in Sales and Profit across different Markets.
- Create a YTD Sales and YTD Profit measure with slicers for different time periods.
- Create a DAX measure to compare Sales for the same period last year (e.g., Q1 this year vs Q1 last year)
- How does the shipping delay trend vary throughout the year by State?
- Show cumulative shipping cost over time and identify peak periods.

Geographical & Regional Insights

- Which States contribute to the top 80% of profit using Pareto Analysis?
- Build a map visual showing Sales, Profit, and Shipping Cost per Country.
- Which Cities consistently receive high discount percentages but return low profit margins?
- What are the top 5 Regions by sales variability (standard deviation of Sales)?
- Find the least profitable State and analyze why (based on quantity, discount, shipping cost).

Product Analysis

- Which Product Sub-Categories have the highest return ($\text{Profit} \div \text{Quantity sold}$)?
- Build a DAX measure to show profitability after deducting Shipping Cost.
- Identify cannibalization: Are there products whose sales rise while similar ones fall?
- Create a slicer to compare performance between high-priced and low-priced products.
- Find products with negative profit despite high sales volume.

Customer & Segmentation

- Segment customers into 4 tiers based on RFM analysis (Recency, Frequency, Monetary value).
- Who are the top 10 customers by lifetime value ($\text{Sales} - \text{Discount} - \text{Shipping Cost}$)?
- Which Customer Segment is most sensitive to discounting?
- Use DAX to create a calculated column to tag each customer as "High Value", "Medium Value", or "Low Value".
- Create a churn prediction logic: customers who haven't purchased in the last 6 months.