**TCL Functions**

1. Average Sales per Customer: Calculate the average sales amount per customer.

**SUM([Sales]) / COUNTD([Customer ID])**

1. Profit Margin: Calculate the profit margin as a percentage.

**(SUM([Profit]) / SUM([Sales])) \* 100**

1. Year-to-Date Sales: Calculate year-to-date sales based on a date field.

**TOTAL(SUM([Sales]))**

1. Running Total: Calculate a running total of a measure, such as cumulative sales.

**RUNNING\_SUM(SUM([Sales]))**

1. Top N Customers by Sales: Identify the top N customers based on their total sales.

**RANK(SUM([Sales])) <= N**

1. Percentage of Total Sales: Calculate each category's sales as a percentage of the total sales.

**SUM([Sales]) / TOTAL(SUM([Sales]))**

1. Moving Average: Compute a moving average of a measure over a specific window of time.

**WINDOW\_AVG(SUM([Sales]), -3, 0)**

1. Growth Rate: Calculate the growth rate of a measure over time.

**(SUM([Sales]) - LOOKUP(SUM([Sales]), -1)) / ABS(LOOKUP(SUM([Sales]), -1))**

1. Cumulative Percentage: Determine the cumulative percentage of a measure.

**RUNNING\_SUM(SUM([Sales])) / TOTAL(SUM([Sales]))**

1. Sales Rank: Assign a rank to products or categories based on their sales.

**RANK(SUM([Sales]))**

1. Customer Churn Rate: Calculate the percentage of customers who stopped using your service in a given time period.

**(COUNTD(IF [Churn Date] <= TODAY() THEN [Customer ID] END) / COUNTD([Customer ID])) \* 100**

1. Sales Growth: Calculate the percentage change in sales compared to the previous period.

**(SUM([Sales]) - LOOKUP(SUM([Sales]), -1)) / ABS(LOOKUP(SUM([Sales]), -1)) \* 100**

1. Profit per Unit: Calculate the profit per unit for a product.

**SUM([Profit]) / SUM([Quantity])**

1. Customer Age Group: Categorize customers into age groups based on their birthdate.

**IF DATEDIFF('year', [Birthdate], TODAY()) <= 25 THEN "Under 25" ELSEIF DATEDIFF('year', [Birthdate], TODAY()) <= 35 THEN "25-35" ELSEIF DATEDIFF('year', [Birthdate], TODAY()) <= 45 THEN "36-45" ELSE "Over 45" END**

1. Average Order Value: Calculate the average value of orders.

**SUM([Sales]) / COUNTD([Order ID])**

1. Customer Retention Rate: Calculate the percentage of customers retained over a period.

**100 - [Customer Churn Rate]**

1. Discounted Sales: Calculate the total sales amount after applying discounts.

**SUM([Sales]) \* (1 - [Discount])**

1. Rank Within Category: Assign a rank to products within their respective categories based on sales.

**RANK(SUM([Sales])) WITHIN [Category]**

1. Sales Growth by Category: Calculate the percentage change in sales by category compared to the previous period.

**(SUM([Sales]) - LOOKUP(SUM([Sales]), -1)) / ABS(LOOKUP(SUM([Sales]), -1)) \* 100 BY [Category]**

1. Average Time Between Orders: Calculate the average time (in days) between consecutive orders for each customer.

**WINDOW\_AVG(DATEDIFF('day', LOOKUP(MAX([Order Date]), -1), MAX([Order Date])), 0, -1)**