**1. % Growth in Sales Compared to Last Year (using VAR)**

Sales Growth % YoY =

VAR CurrSales = [Total Sales]

VAR PrevSales =

CALCULATE ( [Total Sales], SAMEPERIODLASTYEAR ( DateTable[Date] ) )

RETURN

DIVIDE ( CurrSales - PrevSales, PrevSales )

**2. Difference Between Current Month and Previous Month**

Sales Diff MoM =

VAR CurrMonthSales = [Total Sales]

VAR PrevMonthSales =

CALCULATE ( [Total Sales], PREVIOUSMONTH ( DateTable[Date] ) )

RETURN

CurrMonthSales - PrevMonthSales

**3. Total Boxes Shipped + Average Monthly Boxes in One Measure**

Boxes Stats =

VAR TotalBoxes = SUM ( Sales[Boxes] )

VAR AvgMonthly =

AVERAGEX (

VALUES ( DateTable[Month] ),

CALCULATE ( SUM ( Sales[Boxes] ) )

)

RETURN

"Total: " & TotalBoxes & " | Avg per Month: " & ROUND ( AvgMonthly, 1 )

**4. Only Return Average Monthly Boxes**

Avg Monthly Boxes =

VAR TotalBoxes = SUM ( Sales[Boxes] )

VAR MonthsCount = DISTINCTCOUNT ( DateTable[Month] )

RETURN

DIVIDE ( TotalBoxes, MonthsCount )

**5. Growth % from Last Month**

Sales Growth % MoM =

VAR CurrMonthSales = [Total Sales]

VAR PrevMonthSales =

CALCULATE ( [Total Sales], PREVIOUSMONTH ( DateTable[Date] ) )

RETURN

DIVIDE ( CurrMonthSales - PrevMonthSales, PrevMonthSales )

**6. Moving Average (Last 3 Months)**

Sales Moving Avg 3M =

AVERAGEX (

DATESINPERIOD ( DateTable[Date], MAX ( DateTable[Date] ), -3, MONTH ),

[Total Sales]

)

**7. Dynamic Card Message (Sales Rank + YoY)**

Performance Message =

VAR Product = SELECTEDVALUE ( Sales[Product] )

VAR RankProd =

RANKX (

ALL ( Sales[Product] ),

[Total Sales],

,

DESC

)

VAR Growth =

DIVIDE (

[Total Sales] - CALCULATE ( [Total Sales], SAMEPERIODLASTYEAR ( DateTable[Date] ) ),

CALCULATE ( [Total Sales], SAMEPERIODLASTYEAR ( DateTable[Date] ) )

)

RETURN

SWITCH (

TRUE (),

RankProd <= 3 && Growth > 0, "Top Performer - Sales up by " & FORMAT ( Growth, "0%" ),

Growth >= 0, "Consistent Performer",

"Needs Improvement"

)

**8. Top 5 Tips for Manual DAX Optimization**

1. **Use Variables (VAR)** → Avoid recalculating the same logic multiple times.
2. **Reduce Row Context Iterations** → Prefer SUM over SUMX when possible.
3. **Filter with KEEPFILTERS / TREATAS** → More efficient than FILTER on large tables.
4. **Avoid CALCULATE inside iterators unnecessarily** → Push filters outside when possible.
5. **Aggregate Early** → Summarize or pre-aggregate in Power Query before loading to the model.

**9. Benefit of DAX Optimization Tools**

* **DAX Studio** → Analyze query plans, find bottlenecks, measure execution time.
* **Performance Analyzer (Power BI)** → See which visuals/measures take longest to compute.
* **Tabular Editor** → Manage measures, calculation groups, and optimize your model structure quickly.

**10. Flag Top 5 Products by Sales (optimized with VAR)**

Top 5 Product Flag =

VAR RankProd =

RANKX (

ALL ( Sales[Product] ),

[Total Sales],

,

DESC

)

RETURN

IF ( RankProd <= 5, "Yes", "No" )