**Power BI (DAX) Practice**

1.Calculate Year-to-Date(YTD) sales

Sales YTD = CALCULATE(SUM(Sales[SalesAmount]), DATESYTD(Sales[OrderDate]) )

2.Identify top 5 Selling products

Top 5 Products =

    TOPN(5,

        SUMMARIZE(

            Sales,

            Products[ProductName],

            "Product Sales", SUM(Sales[SalesAmount])),

        [Product Sales],DESC)

3.Calculate Average Order Value

Average order value = AVERAGEX(Sales,Sales[SalesAmount])

4.Identify the most profitable product

Most Profitable Product =

    TOPN(1,

        SUMMARIZE(

            Sales,

            Products[ProductName],

            "Total Profit",

            SUMX(Sales, (Sales[UnitPrice] - Sales[Cost price])\*Sales[Quantity])),

        [Total Profit],DESC)

5.Calculate sales by product category

Sales By Category =

        SUMMARIZE(

            Sales,

            Products[Category],

            "Total Sales", SUMX(Sales, Sales[SalesAmount]))

6.Calculate Total Discount Given

Total Discount Given = SUMX(Sales,Sales[UnitPrice] \* Sales[Quantity] \* Sales[Discount])

7.Identify the product with Highest Quantity Sold

Highest Quantiy sold Product =

     TOPN(1,

        SUMMARIZE(

            Sales,

            Products[ProductName],

            "Total Quantity", SUM(Sales[Quantity])),

        [Total Quantity], DESC)

8.Calculate Monthly Sales

Monthly sales =

    SUMMARIZE(

        Sales,

        Sales[OrderDate].[Month],

       "Monthly Sales", SUM(Sales[SalesAmount]))

9.Calculate Average Discount Given per Product

Avg Discount per Product =

    SUMMARIZE(

        Sales,

        Products[ProductName],

        "Avg Discount %", AVERAGEX(Sales,Sales[Discount]),

        "Avg Discount Amount",AVERAGEX(Sales,(Sales[UnitPrice]\*Sales[Quantity]\*Sales[Discount])))

10.Calculate total revenue over sales > 1000 . Apply with specific country

Condition Revenue = SUMX(FILTER(sales, Sales[SalesAmount]>=1000),Sales[SalesAmount])

multiple Condition revenue = CALCULATE(SUM(Sales[SalesAmount]), Sales[SalesAmount]>=1000, Sales[Country]="USA")

11.Calulate Average selling price Per Unit

12.Calculate Customer lifetime Value (CLT)

Customer lifetime value is nothing but, If there are 30 rows in our Sales Data, if One particular Customer have

take 5 purchases. And suppose with those 5 Purchases overall he spent 500$. For that person The lifetime value would be 500$

Customer Lifetime Value =

    SUMMARIZE(

        Sales,

        Sales[CustomerID],

        "Sales per Customer", SUM(Sales[SalesAmount]))

13.Calculate Sales Contribution by Country

Without filter context

# Solve the Question by creating measure

ALL Revenue = CALCULATE(SUM(Sales[SalesAmount]), ALL(Sales))   
Per Country contribution = DIVIDE(SUM(Sales[SalesAmount]),[ALL Revenue])

# Solve the Question by Dax creating table summarize function

Per Country Contribution =

    SUMMARIZE(

        Sales,

        Sales[Country],

        "Total revenue", SUMX(Sales, Sales[SalesAmount]),

        "All revenue", CALCULATE(SUMX(Sales, Sales[SalesAmount]), ALL(Sales)),

        "Per country contribution", DIVIDE(SUMX(Sales, Sales[SalesAmount]), CALCULATE(SUMX(Sales, Sales[SalesAmount]), ALL(Sales))))

14. Calculate Sales Contribute by Product

# This is as same as above just change Sales[Country], into Product[Product\_name]

15. Calculate Total Cost of Goods Sold (COGS)

Total goods sold = SUM(Sales[Cost price])

16.Calculate Net profit and Gross Profit

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cost Price | Selling Price | Gross Profit | Discount | Actual Price | Net profit |
| 110 | 120 | 20 | 5 | 115 | 15 |
| 110 | 115 | 10 | 10 | 105 | -5 |
| 90 | 115 | 25 | 25 | 90 | 0 |

Total Revenue = SUM(Sales[SalesAmount])

Gross Revenue = SUMX(Sales, Sales[UnitPrice]\*Sales[Quantity])

Cost price = SUMX(sales, Sales[Cost price]\*Sales[Quantity])

Gross profit = [Gross Revenue] - [Cost price]

Net Profit = [Total Revenue] - [Cost price]

17. Calculate Net Profit and Gross Profit as percent of Total Revenue

Gross Revenue = SUMX(Sales, Sales[UnitPrice]\*Sales[Quantity])

NP % of Total revenue = DIVIDE([Net Profit], [Total Revenue])\*100

18. Calculate Net profit and Gross Profit percentage per product

GP NP % per product =

    SUMMARIZE(

        Products,

        Products[ProductName],

        "Gross Profit %",

        ([Gross profit]/CALCULATE(SUMX(Sales, (Sales[UnitPrice] - Sales[Cost price])\*Sales[Quantity]),ALL(products)))\*100,

        "Net profit %",

        ([Net Profit]/CALCULATE(SUMX(Sales, (Sales[UnitPrice] - Sales[Cost price])\*Sales[Quantity] \* Sales[Discount]),ALL(products)))\*100)

19. Calculate Repeat Orders by Customers, mention the customer ID, Product ID, Product Name, Order ID, Order Date and the Sales Amount

Repeated orders Customers =

    SUMMARIZE(

        Sales,

        Sales[CustomerID],

        Sales[ProductID],

        Products[ProductName],

        "Orders", CONCATENATEX(Sales,Sales[SaleID],","),

        "Order date",CONCATENATEX(Sales, Sales[OrderDate], ","),

        "Sales Amount", CONCATENATEX(Sales, Sales[SalesAmount], ","),

        "Total Sales", SUMX(Sales, Sales[SalesAmount])

        )

20. Calculate Customers Purchase Frequency

Customer Purchase frequency =

    SUMMARIZE(

        Sales,

        Sales[CustomerID],

        "No of purchases", COUNTROWS(Sales))

21.Product Analysis and Additional Dax Queries

When it comes Product Analysis the analysis is then based on Product

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Product name | Cost of product | Total Sales | Quantity sold | No of Sales | Average Sales | Net profit | NP % Sales | Gross profit | GP% Sales | …. | .. |
|  |  |  |  |  |  |  |  |  |  |  |  |

You can Do a lot of Analysis

# Product Analysis

Product Analysis =

  SUMMARIZE(

  Sales,

  Products[ProductName],

  "Cost of Goods Sold",SUMX(Sales, Sales[Cost price]\*Sales[Quantity]),

  "Total Sales",SUMX(Sales, Sales[SalesAmount]),

  "Quantity Sold", SUMX(Sales, Sales[Quantity]),

  "No of Sales", COUNTROWS(Sales),

  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),

  "Gross Profit", [Gross Profit],

  "Net Profit", [Net Profit],

  "NP % of Sale", [NP % of Total Revenue],

  "GP % of Sale", [GP % fo Total revenue],

  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100,

  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100

  )

# Product Category Analysis

Product Category Analysis =

  SUMMARIZE(

  Sales,

  Products[Category],

  "Cost of Goods Sold",[Cost price],

  "Total Sales",SUMX(Sales, Sales[SalesAmount]),

  "Quantity Sold", SUMX(Sales, Sales[Quantity]),

  "No of Sales", COUNTROWS(Sales),

  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),

  "Gross Profit", [Gross Profit],

  "Net Profit", [Net Profit],

  "NP % of Sale", [NP % of Total Revenue],

  "GP % of Sale", [GP % fo Total revenue],

  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100,

  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100

# Country Analysis

Country Analysis =

  SUMMARIZE(

  Sales,

  Sales[Country],

  "Cost of Goods Sold",[Cost price],

  "Total Sales",SUMX(Sales, Sales[SalesAmount]),

  "Quantity Sold", SUMX(Sales, Sales[Quantity]),

  "No of Sales", COUNTROWS(Sales),

  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),

  "Gross Profit", [Gross Profit],

  "Net Profit", [Net Profit],

  "NP % of Sale", [NP % of Total Revenue],

  "GP % of Sale", [GP % fo Total revenue],

  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100,

  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))\*100

  )