CUSTOMER PERFORMANCE DASHBOARD – POWER BI

1. Introduction

The Customer Performance Dashboard provides a comprehensive analysis of customer demographics, purchase behaviour, and revenue distribution. This dashboard helps businesses make data-driven decisions by analysing key metrics such as customer age, revenue segmentation, and top-ranking customers.

2. Data Source

- **Dataset**: AdventureWorksDW.xlsx
- **Source**: Adventure Works Data Warehouse

The Excel file contains the following tables (sheets):

1. **FactInternetSales –** Contains sales transaction data.
2. **DimProduct –** Details about products sold.
3. **DimSalesTerritory –** Information on sales regions.
4. **DimDate –** Date-related details for time-based analysis.
5. **DimCustomer –** Customer demographic details.
6. **DimGeography –** Geographic information related to customers.

Here's a brief description of each table and its key columns:

1. FactInternetSales (Sales Transactions)

- ProductKey, CustomerKey, SalesTerritoryKey – Links to respective dimension tables.
- OrderDate, DueDate, ShipDate – Dates related to the sales process.
- SalesOrderNumber, SalesOrderLineNumber – Unique identifiers for orders.
- OrderQuantity, UnitPrice, SalesAmount, DiscountAmount – Sales and pricing data.
- TaxAmt, Freight, TotalProductCost – Additional financial details.

2. DimProduct (Product Details)

- ProductKey – Unique identifier for products.

- EnglishProductName, FrenchProductName, SpanishProductName – Product names in multiple languages.
- StandardCost, ListPrice, DealerPrice – Pricing information.
- Size, Color, Weight, ProductLine – Product specifications.
- EnglishDescription, FrenchDescription – Product descriptions.

3. DimSalesTerritory (Sales Regions)

- SalesTerritoryKey – Unique identifier for sales territories.
- SalesTerritoryRegion, SalesTerritoryCountry, SalesTerritoryGroup – Geographic classifications.

4. DimDate (Date Information)

- DateKey, FullDateAlternateKey – Unique date identifiers.
- DayNumberOfWeek, EnglishDayNameOfWeek – Day-specific details.
- MonthNumberOfYear, EnglishMonthName – Month-specific details.
- CalendarYear, FiscalYear – Calendar and fiscal period classifications.

5. DimCustomer (Customer Demographics)

- CustomerKey – Unique identifier for customers.
- FirstName, LastName, Gender, BirthDate – Personal details.
- MaritalStatus, NumberChildrenAtHome, HouseOwnerFlag – Household information.
- YearlyIncome, NumberCarsOwned – Financial and lifestyle data.
- EmailAddress, Phone – Contact details.

6. DimGeography (Geographic Details)

- GeographyKey – Unique geographic identifier.
- City, StateProvinceName, CountryRegionCode – Location details.
- PostalCode, SalesTerritoryKey – Mapping to sales territories.

3. Dashboard Components

3.1 Average Customer Age

- Displays the mean age of all customers.
- Calculation: AVERAGE(DimCustomer[Customer Age])

3.2 Total Customers

- Shows the total number of unique customers in the dataset.
- Calculation: COUNTROWS(ALL(DimCustomer[CustomerKey]))

3.3 Revenue Segmentation by Age Group

- Analyzes revenue contribution from different age categories.
- Insights:
    - Majority of revenue (75%) is generated by customers in the **30-50 age group**.
    - The highest revenue contributors are in the **30-40 range ($80M)**.

3.4 Customer Categorization

- **VIP Customers**: Customers with the highest purchase frequency and total revenue.
- **Loyal Customers**: Customers with consistent purchasing habits.
- **Periodic Customers**: Customers with irregular purchase patterns.

3.5 Revenue by Customers With/Without Children

- **Customers Without Children (29%)**
    - Highest percentage in the **United States (35.68%)**.
    - Total revenue from this segment: **$77.42M**.
- **Customers With Children (71%)**
    - Highest percentage in **Australia (44.02%)**.
    - Total revenue from this segment: **$39.67M**.

3.6 Top-Ranking Customers

- Displays the **Top 5 highest revenue-generating customers**.
- Provides an option to filter and view more rankings dynamically.

3.7 Earnings Based on Gender

- **Male Customers** contribute **$153M** (49.7%) of total revenue.
- **Female Customers** contribute **$154M** (50.3%) of total revenue.
- Gender-based insights help businesses tailor marketing strategies.

4. Key Questions Answered:

4.1 Discover how to calculate the average age of your customers.

4.2 Learn the steps to determine the total count of your customer base.

4.3 Master the art of categorizing your customers based on their total orders and purchases. We will identify VIP Customers, Loyal Customers, and Periodic Buyers.

4.4. Explore how to analyze revenue based on whether your customers have children or not, gaining critical insights into their preferences.

4.5 Implement a dynamic ranking system to identify and celebrate your top-performing customers, boosting your business strategies.

4.6 Gain valuable insights into revenue trends by examining customer gender.

5. Analysis & Insights

- Customers aged **30-50** are the primary revenue drivers.
- A significant portion of customers have children, influencing their purchase behaviour.
- Revenue distribution is nearly equal between genders, indicating a balanced customer base.
- Identifying top customers helps in formulating personalized engagement strategies.

6. Conclusion & Future Enhancements

- The dashboard provides actionable insights into customer demographics and purchasing behaviour.
- Future enhancements:
    - **Integration with real-time data sources**.
    - **Advanced predictive analytics** to forecast customer trends.
    - **Additional filters and drill-down options** for deeper insights.