**Week 12 - Graded Mini Project**

**Learning Outcome Addressed**

* Develop a foundational understanding of how to translate data into compelling stories that engage and inform diverse audiences.
* Learn to communicate data-driven insights effectively by building structured, Audience-focused narratives that support strategic decision making.

**Objective**

Build a dashboard to analyse customer orders, including total orders, sales by product category, customer segmentation, and monthly sales trends.

**Task**

**Step 1: Dataset Preparation**

1. **Customers:** Contains customer demographic data.

* **Description:-**

**•  CustomerID:** A unique identifier for each customer. This is used as a primary key to link customer information to orders.

**•  CustomerName:** The name of the customer. This helps identify individual buyers.

**•  Region:** The geographic region where the customer resides (e.g., North, South, East, West). This is useful for regional sales analysis.

**•  Age:** The age of the customer. Age groups can help identify target audiences and buying behaviors.

**•  Gender:** The gender of the customer. Analysing gender can be beneficial for understanding which products are more popular with different demographics.

**•  CustomerSince:** The date when the customer first made a purchase. This can be used to understand customer loyalty and duration.

**•  Email:** Contact information for customers (useful for direct marketing).

**2. Orders:** Contains order-level data.

* **Description:-**

**•  OrderID:** A unique identifier for each order. This helps track individual purchases and serves as the primary key for orders.

**•  CustomerID:** The ID linking each order to a specific customer in the **Customers** table. This lets us analyse customer-specific purchasing patterns.

**•  ProductID:** The ID linking each order to a specific product in the **Products** table. This is useful for product-level sales analysis.

**•  OrderDate:** The date when the order was placed. This is important for analysing monthly, quarterly, and yearly trends.

**•  Quantity:** The number of units purchased in this order. Useful for calculating total sales volume.

**•  TotalSales:** The total sales amount for the order, often calculated as Quantity \* Unit Price from the Products table.

**3. Products:** Contains product information.

* **Description:-**

**•  ProductID:** A unique identifier for each product, which links products to specific orders in the Orders table.

**•  ProductName:** The name of the product. Useful for identifying popular items.

**•  Category:** The category or department the product belongs to (e.g., Electronics, Furniture, Apparel). This is valuable for category-level analysis and comparisons.

**•  UnitPrice:** The standard price per unit of the product. This is used to calculate total sales based on the quantity ordered.

**•  Supplier:** The supplier or brand of the product. Useful for vendor analysis and inventory management.

Shape**Step 2: Load the Dataset into Power BI and Transform  data(if required)**

**Step 3: Data Modeling and Relationships**

1. After loading the data, go to the **Model** view.
2. Create relationships between the tables:
3. These relationships allow you to filter and aggregate data across the tables.

**Step 4: Creating Visuals for the Dashboard**

Here are the visuals we’ll create to make a complete dashboard:

1. **Total Sales (Card Visual)**
2. **Total Orders (Card Visual)**
3. **Sales by Product Category (Donut or Pie Chart)**
4. **Monthly Sales Trend (Line Chart)**
5. **Customer Segmentation by Region (Stacked Bar Chart)**

**Step 5: Applying Simple DAX Calculations**

To add more analytical insights, you can create basic DAX measures:

1. **Display Card Visual showing Average Order Value**
2. **Display Card Visual showing Monthly Sales Growth in the percentage format**

* Hint:(Current Month Sales−Previous Month Sales​)/ Previous Month Sales

**Step 6: Formatting and Final Touches**

1. **Format the visuals** using the **Format** pane:

* Adjust colors, add data labels, and choose a color theme to make the dashboard visually appealing.

1. **Add Titles** for each visual for clarity.
2. **Arrange the visuals** on the dashboard to make it look organised and user-friendly.
3. Save your Power BI file as Sales\_Anaysis\_Dashboard.pbix.

**Submission Instructions**

Please document your response on the following pages.

Once you have completed the activity, save the file as a PDF and upload it. Be sure to name the file as **Module 12:** **Graded Mini Project\_[Your last name].**

Your submission will be considered complete when it meets these criteria:

* Includes all the key elements outlined in the activity instructions and the rubric.
* Adheres to the submission guidelines.
* Is submitted on time.

***This is a required activity and counts towards programme completion.***

Reflect on the task and respond to the following questions.

**Response**