My Approach towards the Assignment

After reading the excel and pdf files, I have understood that we need to create three Data visualization dashboards as follows;

- **Sales Performance Dashboard**
- **Product Analysis Dashboard**
- **Regional Analysis Dashboard**

To prepare the above dashboard, we have to go through phases mentioned below in the file.

1. Data Preparation Phase

For this, I opened the sales excel files i.e. Sales 2020, 2021, 2022 and understand them carefully

Then open the others excel files and understood their data sets as well. I opened the Power BI desktop and started with blank documents. Thereafter, I loaded the Sales_2020 excel file then 2021,2022, 2023 and then 2024 in the Power query editor. Afterwards, I started applying various cleaning and data manipulations techniques on the same various excel file as per requirement of the question.

In the next step, I moved on the Product Details excel workbook and load this into the Power Query Editor. I did follow steps on the above file:-

- Studied all the worksheets for a couple of minutes
- Applied cleaning process on the different worksheets as per the requirement
- Consolidated the Product Category table and Sub_Category table (both are Dim Tables) into a Product1(Fact table).

A main reason to do so is to consolidate the data (category wise as well sub_category wise) into a single table for better as well concise understanding and optimum utilization of space along with Power BI. Thereafter, I moved on the Region wise excel workbook and load this into the Power Query Editor. I did follow steps on the above file:-

- Studied worksheets for a couple of minutes
- Applied initial cleaning process on the different worksheets
- Appended all the four regions file into a single consolidated Combine Region Data.
- Finally, applied all the remaining cleaning and data manipulation techniques on the combine Region file in the Power Query Editor.

Thereafter, I moved on the SalesPerson excel workbook and load this into the Power Query Editor.

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Thereafter, I moved on the Salesperson PDF and load this into the Power Query Editor. I did follow steps on the above file:-

- Studied worksheets for a couple of minutes
- Appended all the four regions file into a single consolidated Employee_Region Details file

At the end of this data preparation phase, I have four tables including

- Combine_Region_Data
- Combine_Sales_Data
- Combine_Salesperson_Details
- Product Details

2. Data Modelling Phase

In the previous phase, I have already loaded, cleaned, transformed, consolidated raw data from different three excel workbook into four tables. Now, we have to create calculated table and some measures.

Calculated Table:-→

Data Table using the below formula from the Combine_Sales_Data table

- Date Table = DISTINCT(Combine_Sales_Data[Order Date])

Measure Table with various measures as follows; →

Total Sales M with DAX Formula

- Total Sales M = SUM(Combine_Sales_Data[Sales Value D])

Total Cost M with DAX formula

- Total Cost M = SUM(Combine_Sales_Data[Total Cost D])

Total Profit M with DAX Formula

- Total Profit M = [Total Sales M] - [Total Cost M]

% Profit Margin M with DAX Formula

- % Profit Margin M = DIVIDE([Total Profit M],[Total Sales M],0)*100

Now onwards, we have to establish relationship among the datasets and easy retrieval of information from the data tables. We have joined different tables as follows using common columns as follows;

- Combine_Sales_Data with Combine_Sales_Details with the **EmployeeID Column**
- Combine_Sales_Data with Date Table with the **Order Date Column**

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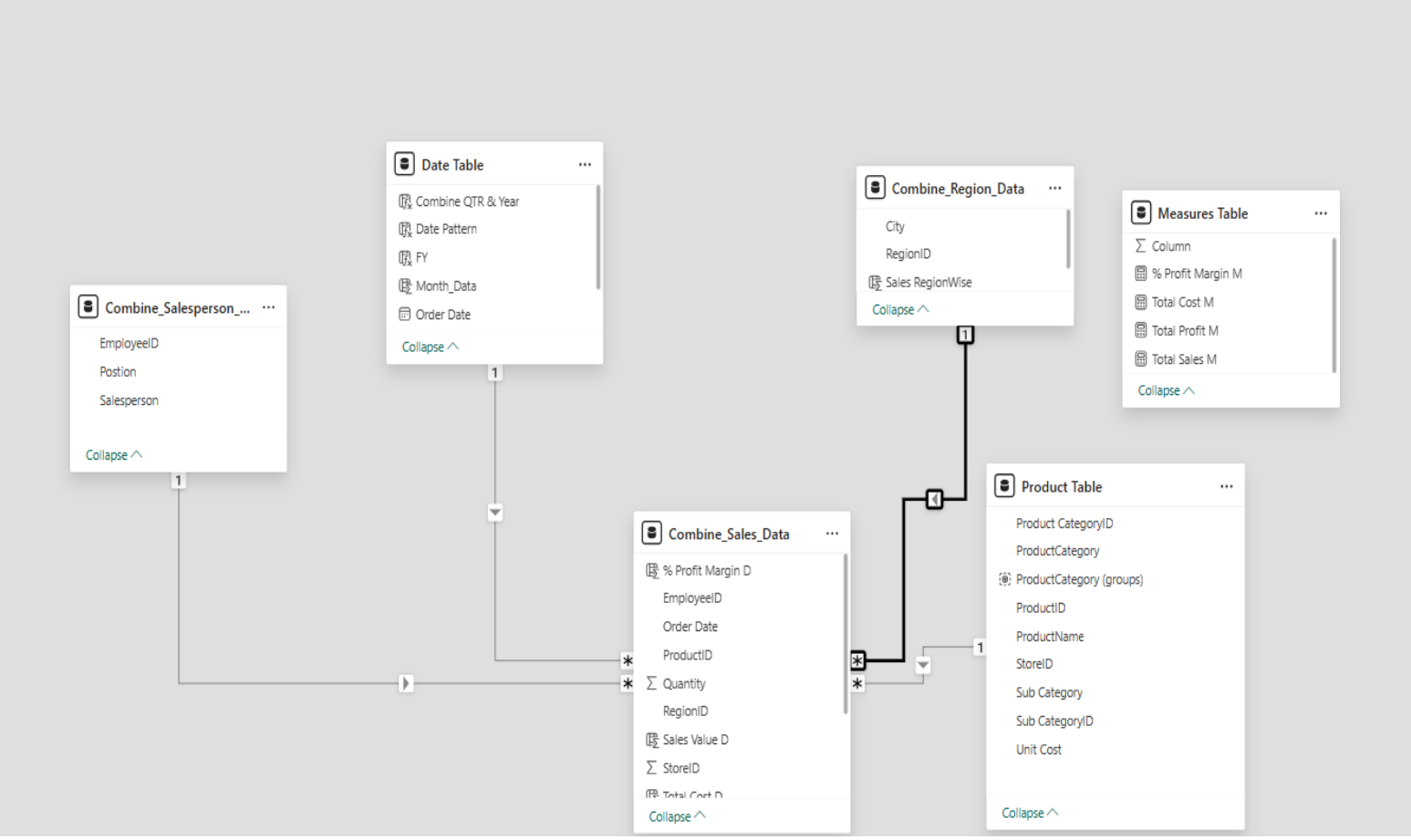
- Combine_Sales_Data with Combine_Region_Data with the **RegionID Column**
- Combine_Sales_Data with Product Table with the **ProductID Column**



3. Data Visualization Phase

In this phase, we create dashboards to present meaningful insights using the cleaned and transformed data from above two phases. This includes designing various charts, graphs, filters, and slicers to analyse sales, product performance, and regional trends.

The **Sales Performance Dashboard** focuses on sales and cost trends, product wise profit, profit margin and KPIs etc.

Product Analysis Dashboard highlights product-wise performance, category wise profit, top products from category and sub-category with KPIs etc.

Regional Analysis Dashboard provides insights into geographic sales distribution, performance of sales person, quantity sold per sales person with KPIs etc.

Each dashboard leverages the prepared tables to deliver clear and actionable visualizations.