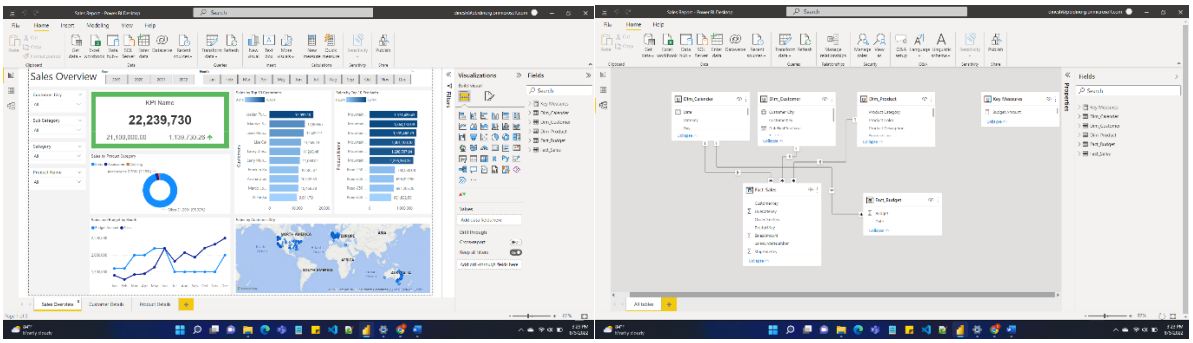
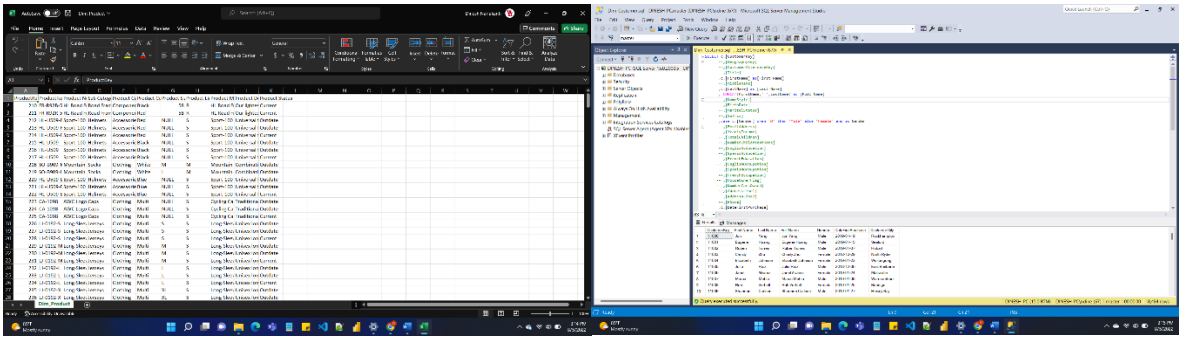
Data Analysis Project – Sales Management





Business Request and User Stories

A business request for this project was to create a executive sales report for the manager of sales. Upon the given request from the business, the following user stories were defined to satisfy and fulfill the delivery.

#	As a (role)	I want (request / demand)	So that I (user value)	Acceptance Criteria
1	Sales Manager	To get a dashboard overview of sales	Can understand better which customers and products have the best sales	A Power BI dashboard which updates data regularly
2	Sales Representative	A detailed overview of Sales per Customers	Can follow up my customers that buys the most and who we can sell more to	A Power BI dashboard which allows me to filter data for each customer

3	Sales Representative	A detailed overview of Sales per Products	Can follow up my Products that sells the most	A Power BI dashboard which allows me to filter data for each Product
4	Sales Manager	A dashboard overview of sales	Follow sales over time against budget	A Power Bi dashboard with graphs and KPIs.

Data Cleaning and Transformation (SQL)

To create the optimized data model for the analysis and fulfilling the business requirements, the following tables were extracted using SQL.

Below are the SQL queries and statements for cleansing and transforming required data.

Dim_Calender:

```
SELECT [DateKey]
      ,[FullDateAlternateKey] as Date
      --,[DayNumberOfWeek]
      ,[EnglishDayNameOfWeek] as Day
      --,[SpanishDayNameOfWeek]
      --,[FrenchDayNameOfWeek]
      --,[DayNumberOfMonth]
      --,[DayNumberOfYear]
      ,[WeekNumberOfYear] as WeekNr
      ,[EnglishMonthName] as Month
         , LEFT(EnglishMonthName, 3) as MonthShort
      --,[SpanishMonthName]
      --,[FrenchMonthName]
      ,[MonthNumberOfYear] as MonthNr
      ,[CalendarQuarter] as Quarter
      ,[CalendarYear] as Year
      --,[CalendarSemester]
      --,[FiscalQuarter]
      --,[FiscalYear]
      --,[FiscalSemester]
  FROM [AdventureWorksDW2019].[dbo].[DimDate]
  where CalendarYear >= 2019
```

Dim_Customer:

```
SELECT c.[CustomerKey]
      --,[GeographyKey]
      --,[CustomerAlternateKey]
      --,[Title]
      ,c.[FirstName] as[First Name]
      --,[MiddleName]
      ,c.[LastName] as [Last Name]
         , CONCAT(FirstName,' ',LastName) as [Full Name]
```

```
      --,[NameStyle]
      --,[BirthDate]
      --,[MaritalStatus]
      --,[Suffix]
      ,case c.[Gender] when 'M' then 'Male' else 'Female' end as Gender
      --,[EmailAddress]
      --,[YearlyIncome]
      --,[TotalChildren]
      --,[NumberChildrenAtHome]
      --,[EnglishEducation]
      --,[SpanishEducation]
      --,[FrenchEducation]
     -- ,[EnglishOccupation]
      --,[SpanishOccupation]
      --,[FrenchOccupation]
     -- ,[HouseOwnerFlag]
     -- ,[NumberCarsOwned]
      --,[AddressLine1]
      --,[AddressLine2]
      --,[Phone]
      ,c.[DateFirstPurchase]
      --,[CommuteDistance]
         ,g.City as [Customer City]
  FROM [AdventureWorksDW2019].[dbo].[DimCustomer] as c
  join AdventureWorksDW2019.dbo.DimGeography as g
  on c.GeographyKey = g.GeographyKey
  order by c.CustomerKey asc
```

Dim_Product:

```
SELECT p.[ProductKey]
      ,[ProductAlternateKey] as ProductItemCode
      --,p.[ProductSubcategoryKey]
      --,[WeightUnitMeasureCode]
      --,[SizeUnitMeasureCode]
      ,p.[EnglishProductName] as [Product Name]
      ,ps.EnglishProductSubcategoryName as [Sub Category]
         ,pc.EnglishProductCategoryName as [Product Category]
         --,[SpanishProductName]
      --,[FrenchProductName]
      --,[StandardCost]
      --,[FinishedGoodsFlag]
      ,p.[Color] as [Product Color]
      --,[SafetyStockLevel]
      --,[ReorderPoint]
      --,[ListPrice]
      ,p.[Size] as [Product Size]
      --,[SizeRange]
     -- ,[Weight]
      --,[DaysToManufacture]
      ,p.[ProductLine] as [Product Line]
      --,[DealerPrice]
      --,p.[Class]
      --,p.[Style]
      ,p.[ModelName] as [Product Model Name]
      --,[LargePhoto]
```

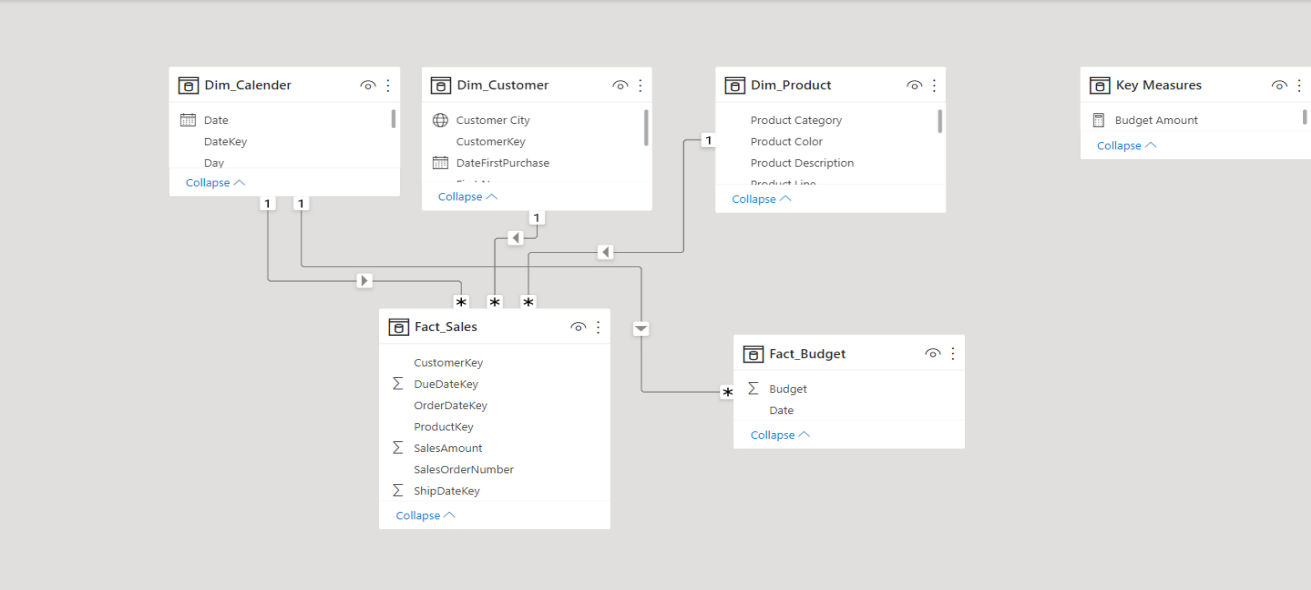
```
      ,p.[EnglishDescription] as [Product Description]
      --,[FrenchDescription]
      --,[ChineseDescription]
      --,[ArabicDescription]
      --,[HebrewDescription]
      --,[ThaiDescription]
      --,[GermanDescription]
      --,[JapaneseDescription]
      --,[TurkishDescription]
      --,[StartDate]
      --,[EndDate]
      ,ISNULL(p.[Status],'Outdated') as [Product Status]

  FROM [AdventureWorksDW2019].[dbo].[DimProduct] as p
  join AdventureWorksDW2019.dbo.DimProductSubcategory as ps
  on p.ProductSubcategoryKey = ps.ProductSubcategoryKey
  join AdventureWorksDW2019.dbo.DimProductCategory as pc
  on ps.ProductCategoryKey = pc.ProductCategoryKey
  order by p.ProductKey asc
```

Fact_Sales:

```
SELECT
  [ProductKey],
  [OrderDateKey],
  [DueDateKey],
  [ShipDateKey],
  [CustomerKey],
  --  ,[PromotionKey]
  --  ,[CurrencyKey]
  --  ,[SalesTerritoryKey]
  [SalesOrderNumber],
  --  [SalesOrderLineNumber],
  --  ,[RevisionNumber]
  --  ,[OrderQuantity],
  --  ,[UnitPrice],
  --  ,[ExtendedAmount]
  --  ,[UnitPriceDiscountPct]
  --  ,[DiscountAmount]
  --  ,[ProductStandardCost]
  --  ,[TotalProductCost]
  [SalesAmount] --  ,[TaxAmt]
  --  ,[Freight]
  --  ,[CarrierTrackingNumber]
  --  ,[CustomerPONumber]
  --  ,[OrderDate]
  --  ,[DueDate]
  --  ,[ShipDate]
FROM
  [AdventureWorksDW2019].[dbo].[FactInternetSales]
WHERE
  LEFT (OrderDateKey, 4) >= YEAR(GETDATE()) -2 -- Ensures we always only bring two years
of date from extraction.
ORDER BY
  OrderDateKey ASC
```

Data Model:

Attached the screenshot of the data model after cleaning and preparing tables into Power BI.



Sales Management Dashboard:

Click on the picture below to see the actual dashboard that is published!