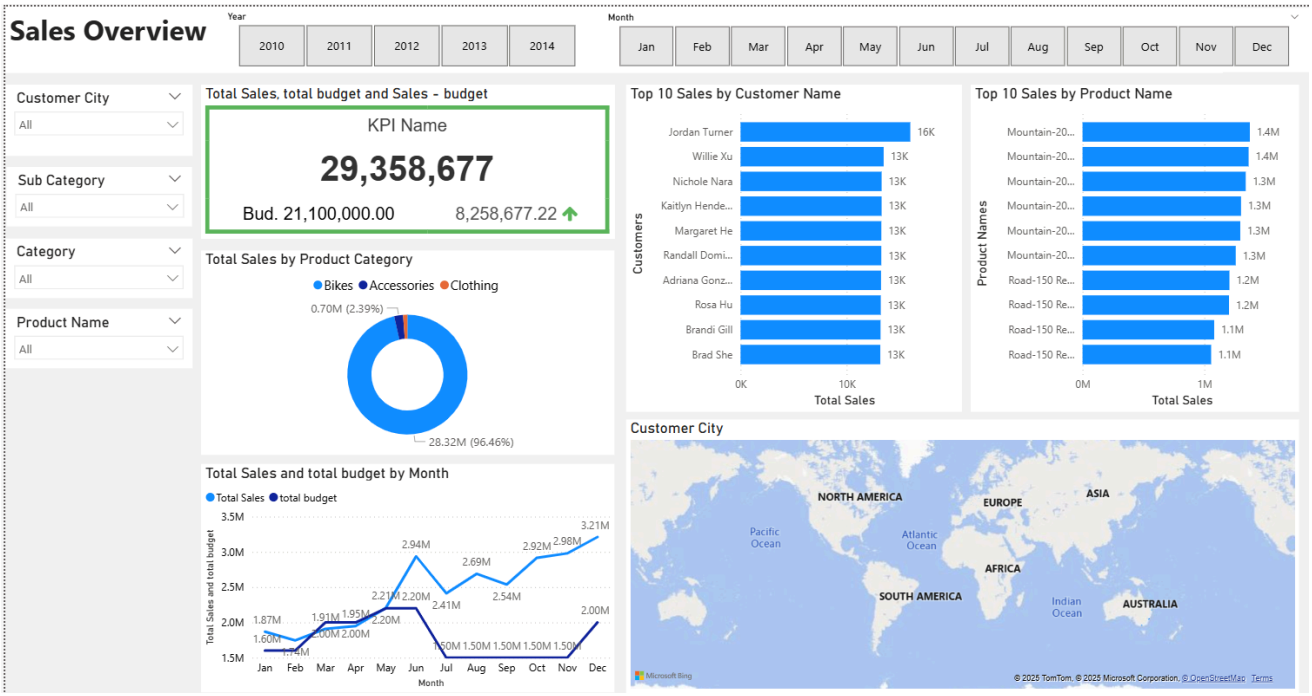
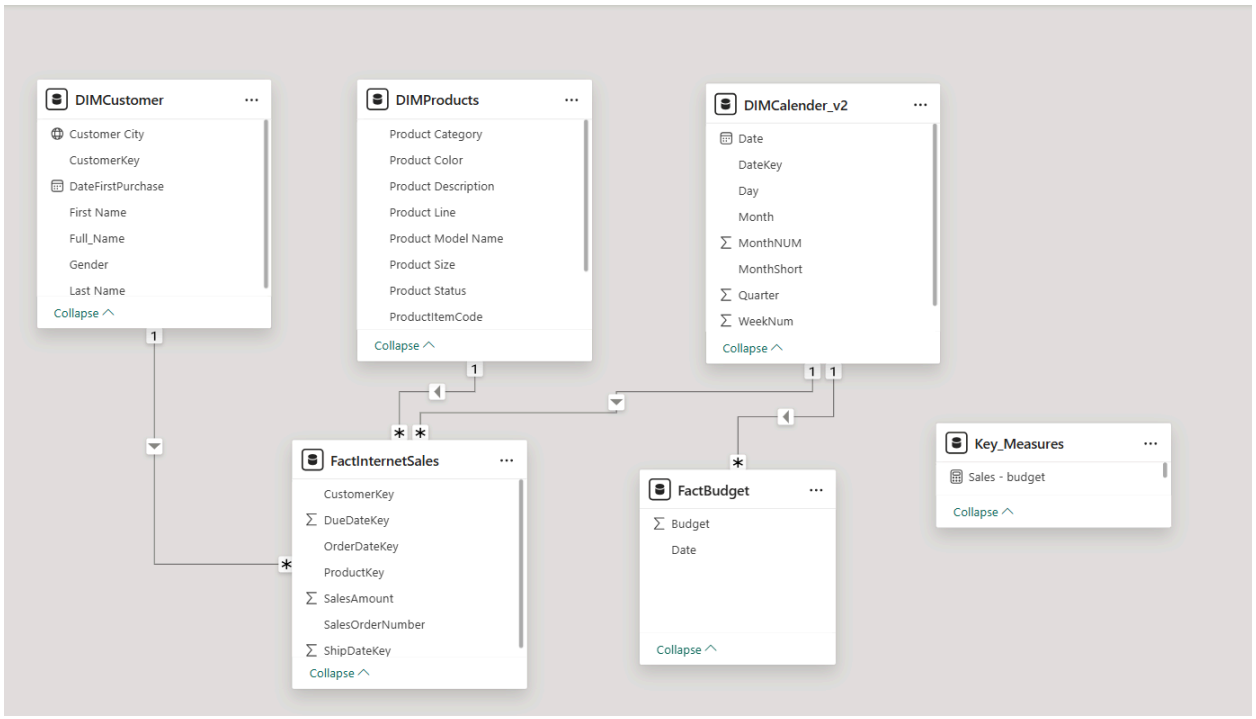
DATA ANALYST PROJECT - SALES MANAGEMENT

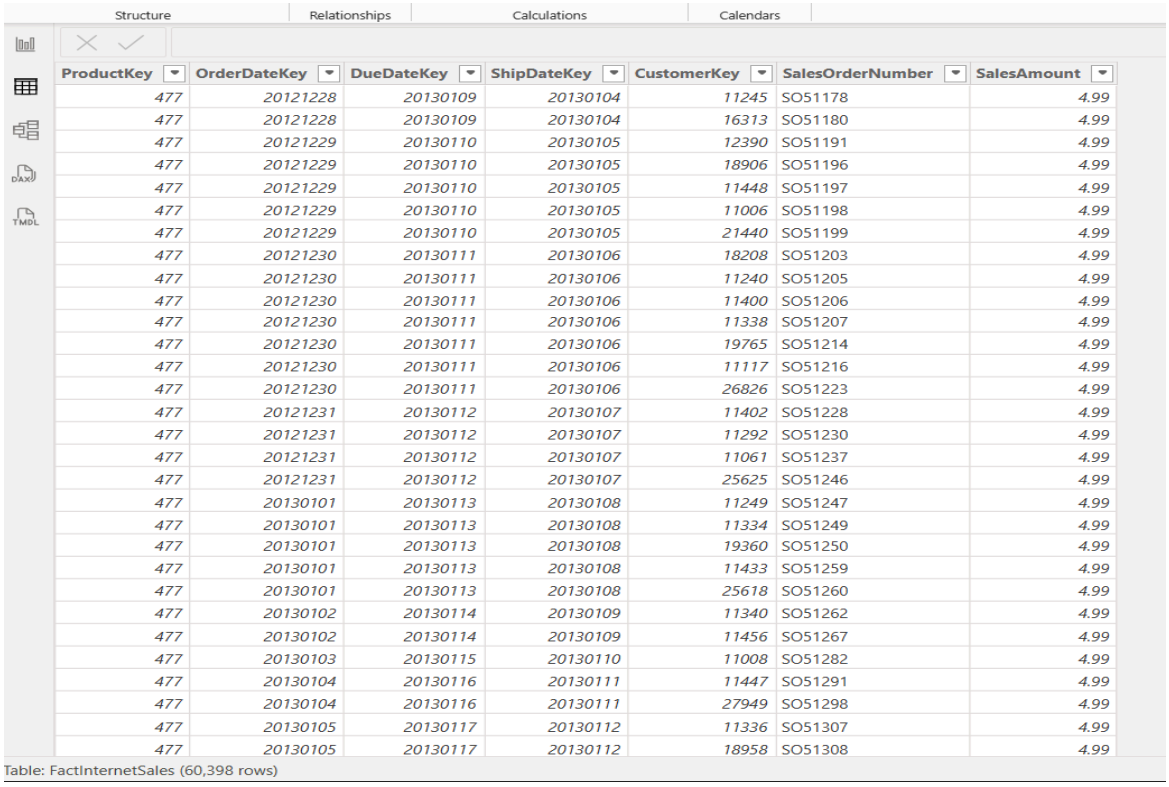
DASHBOARD



DATA MODEL



DATA



Structure | Relationships | Calculations | Calendars

ProductKey	OrderDateKey	DueDateKey	ShipDateKey	CustomerKey	SalesOrderNumber	SalesAmount
477	20121228	20130109	20130104	11245	SO51178	4.99
477	20121228	20130109	20130104	16313	SO51180	4.99
477	20121229	20130110	20130105	12390	SO51191	4.99
477	20121229	20130110	20130105	18906	SO51196	4.99
477	20121229	20130110	20130105	11448	SO51197	4.99
477	20121229	20130110	20130105	11006	SO51198	4.99
477	20121229	20130110	20130105	21440	SO51199	4.99
477	20121230	20130111	20130106	18208	SO51203	4.99
477	20121230	20130111	20130106	11240	SO51205	4.99
477	20121230	20130111	20130106	11400	SO51206	4.99
477	20121230	20130111	20130106	11338	SO51207	4.99
477	20121230	20130111	20130106	19765	SO51214	4.99
477	20121230	20130111	20130106	11117	SO51216	4.99
477	20121230	20130111	20130106	26826	SO51223	4.99
477	20121231	20130112	20130107	11402	SO51228	4.99
477	20121231	20130112	20130107	11292	SO51230	4.99
477	20121231	20130112	20130107	11061	SO51237	4.99
477	20121231	20130112	20130107	25625	SO51246	4.99
477	20130101	20130113	20130108	11249	SO51247	4.99
477	20130101	20130113	20130108	11334	SO51249	4.99
477	20130101	20130113	20130108	19360	SO51250	4.99
477	20130101	20130113	20130108	11433	SO51259	4.99
477	20130101	20130113	20130108	25618	SO51260	4.99
477	20130102	20130114	20130109	11340	SO51262	4.99
477	20130102	20130114	20130109	11456	SO51267	4.99
477	20130103	20130115	20130110	11008	SO51282	4.99
477	20130104	20130116	20130111	11447	SO51291	4.99
477	20130104	20130116	20130111	27949	SO51298	4.99
477	20130105	20130117	20130112	11336	SO51307	4.99
477	20130105	20130117	20130112	18958	SO51308	4.99

Table: FactInternetSales (60,398 rows)

SQL QUERY

```
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
[AdventureWorksDW2022].[dbo].[FactInternetSales]
where
LEFT (OrderDateKey, 4) >= YEAR(GETDATE()) - 2 -- Ensures we always only brings two years of date from extraction
order by
OrderDateKey asc
```

Business Request & User Stories

The business request for this data analyst project was an executive sales report for sales managers. Based on the request that was made from the business we following user stories were defined to fulfill delivery and ensure that acceptance criteria's were maintained throughout the project.

#	As a (role)	I want (request / demand)	So that I (user value)	Acceptance Criteria
1	Sales Manager	To get a dashboard overview of internet sales	Can follow better which customers and products sells the best	A Power BI dashboard which updates data once a day
2	Sales Representative	A detailed overview of Internet 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 Internet 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 internet sales	Follow sales over time against budget	A Power Bi dashboard with graphs and KPIs comparing against budget.

Data Cleansing & Transformation (SQL)

To create the necessary data model for doing analysis and fulfilling the business needs defined in the user stories the following tables were extracted using SQL.

One data source (sales budgets) were provided in Excel format and were connected in the data model in a later step of the process.

Below are the SQL statements for cleansing and transforming necessary data.

DIM_Calendar:

```
-- Cleansed DIM_Date Table --
SELECT
  [DateKey],
  [FullDateAlternateKey] AS Date,
  --[DayNumberOfWeek],
  [EnglishDayNameOfWeek] AS Day,
  --[SpanishDayNameOfWeek],
  --[FrenchDayNameOfWeek],
  --[DayNumberOfMonth],
  --[DayNumberOfYear],
  --[WeekNumberOfYear],
  [EnglishMonthName] AS Month,
  Left([EnglishMonthName], 3) AS MonthShort,   -- Useful for front end date navigation and
front end graphs.
  --[SpanishMonthName],
  --[FrenchMonthName],
  [MonthNumberOfYear] AS MonthNo,
  [CalendarQuarter] AS Quarter,
  [CalendarYear] AS Year --[CalendarSemester],
  --[FiscalQuarter],
  --[FiscalYear],
  --[FiscalSemester]
FROM
 [AdventureWorksDW2019].[dbo].[DimDate]
WHERE
  CalendarYear >= 2019
```

DIM_Customers:

```
-- Cleansed DIM_Customers Table --
SELECT
  c.customerkey AS CustomerKey,
  --      ,[GeographyKey]
  --      ,[CustomerAlternateKey]
  --      ,[Title]
  c.firstname AS [First Name],
  --      ,[MiddleName]
  c.lastname AS [Last Name],
  c.firstname + ' ' + lastname AS [Full Name],
  -- Combined First and Last Name
  --      ,[NameStyle]
  --      ,[BirthDate]
  --      ,[MaritalStatus]
  --      ,[Suffix]
  CASE c.gender WHEN 'M' THEN 'Male' WHEN 'F' THEN 'Female' END AS Gender,
  --      ,[EmailAddress]
  --      ,[YearlyIncome]
  --      ,[TotalChildren]
  --      ,[NumberChildrenAtHome]
  --      ,[EnglishEducation]
  --      ,[SpanishEducation]
  --      ,[FrenchEducation]
  --      ,[EnglishOccupation]
  --      ,[SpanishOccupation]
  --      ,[FrenchOccupation]
  --      ,[HouseOwnerFlag]
  --      ,[NumberCarsOwned]
  --      ,[AddressLine1]
  --      ,[AddressLine2]
  --      ,[Phone]
  c.datefirstpurchase AS DateFirstPurchase,
  --      ,[CommuteDistance]
  g.city AS [Customer City] -- Joined in Customer City from Geography Table
FROM
  [AdventureWorksDW2019].[dbo].[DimCustomer] as c
  LEFT JOIN dbo.dimgeography AS g ON g.geographykey = c.geographykey
ORDER BY
  CustomerKey ASC -- Ordered List by CustomerKey
```

DIM_Products:

```
-- Cleansed DIM_Products Table --
SELECT
  p.[ProductKey],
  p.[ProductAlternateKey] AS ProductItemCode,
  --      ,[ProductSubcategoryKey],
  --      ,[WeightUnitMeasureCode]
  --      ,[SizeUnitMeasureCode]
  p.[EnglishProductName] AS [Product Name],
  ps.EnglishProductSubcategoryName AS [Sub Category], -- Joined in from Sub Category Table
  pc.EnglishProductCategoryName AS [Product Category], -- Joined in from Category Table
  --      ,[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]
  --      ,[Class]
  --      ,[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
  LEFT JOIN dbo.DimProductSubcategory AS ps ON ps.ProductSubcategoryKey =
p.ProductSubcategoryKey
  LEFT JOIN dbo.DimProductCategory AS pc ON ps.ProductCategoryKey = pc.ProductCategoryKey
order by
  p.ProductKey asc
```

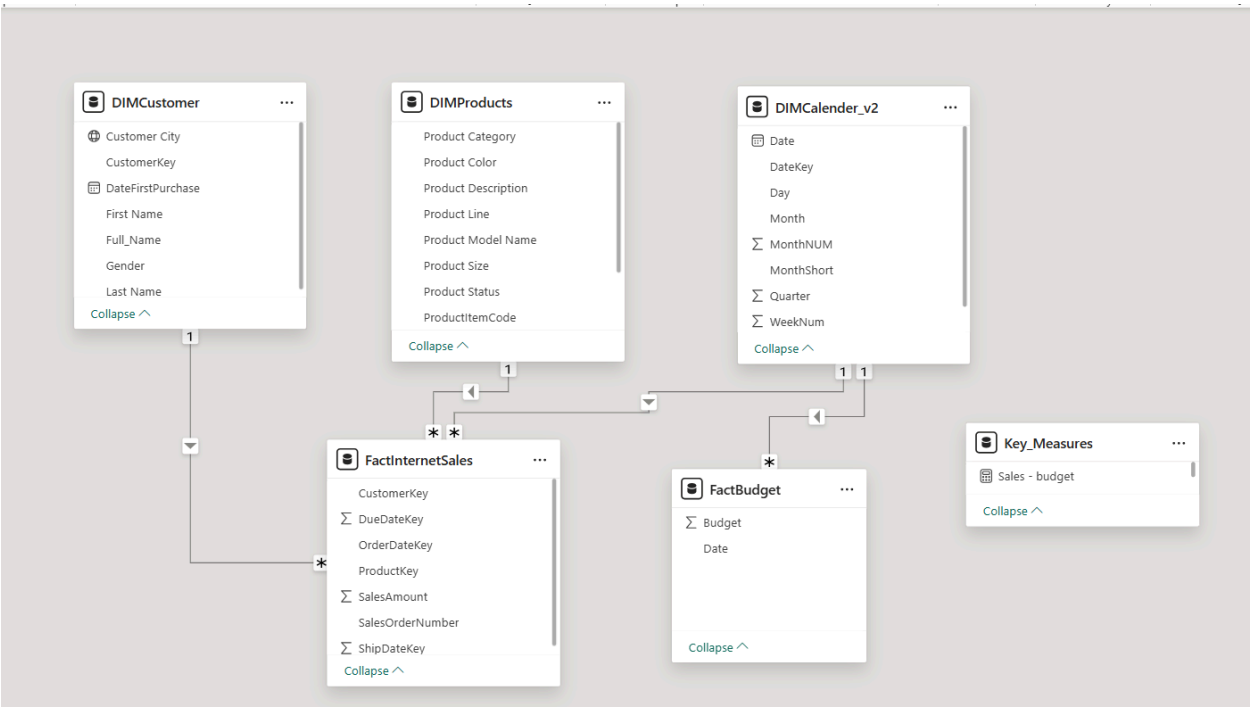
FACT_InternetSales:

```
-- Cleansed FACT_InternetSales Table --
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

Below is a screenshot of the data model after cleansed and prepared tables were read into Power BI.

This data model also shows how FACT_Budget hsa been connected to FACT_InternetSales and other necessary DIM tables.



Sales Management Dashboard

The finished sales management dashboard with one page with works as a dashboard and overview, with two other pages focused on combining tables for necessary details and visualizations to show sales over time, per customers and per products.

Click the picture to to open the dashboard and try it out!