

Data Analyst Portfolio Project

“Sales Management”

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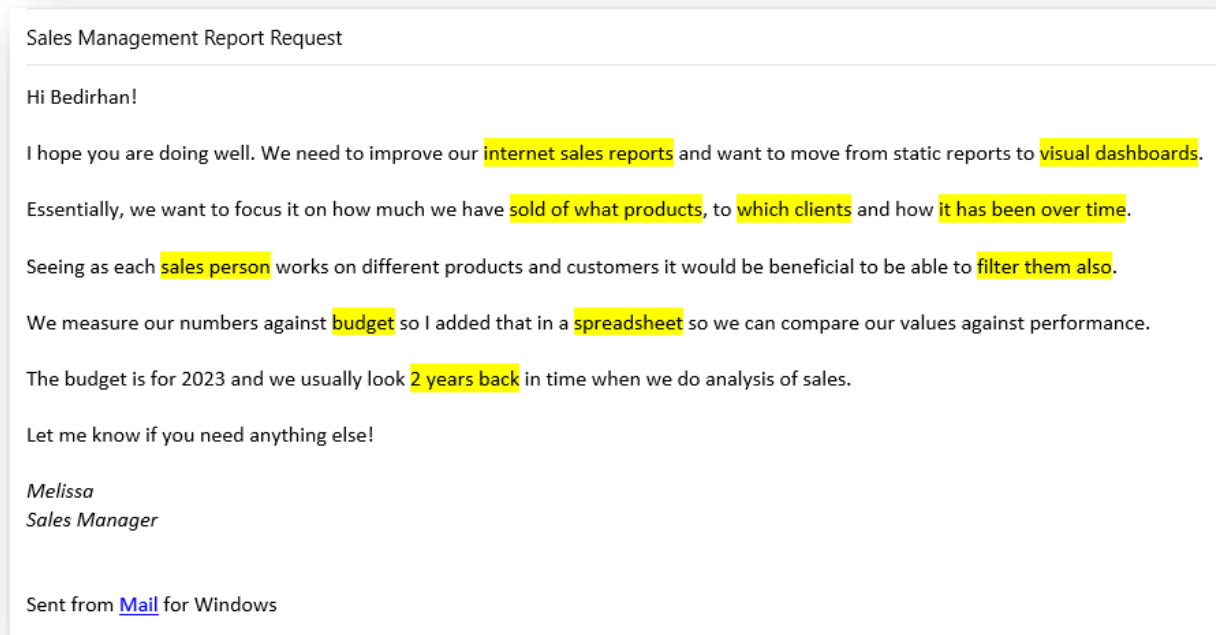
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1- Business Request and User Stories

The email shown below was sent by Melissa who is the Sales Manager of the company of ours in order to improve sales reports.

I painted key points on the email yellow so as to figure out business requests better before working on data analysis.

And also, created a user stories table to make our way clear on focusing business requests.



User Stories				
#	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 sell the best.	A Power BI dashboard that updates data once a day.
2	Sales Manager	A dashboard overview of Internet sales	Follow sales over time against budget.	A Power Bi dashboard with graphs and KPIs comparing against the budget.
3	Sales Representative	A detailed overview of Internet Sales per Products	Can follow up on the Products that sell the most.	A Power BI dashboard that allows me to filter data for each Product.
4	Sales Representative	A detailed overview of Internet Sales per Customers	Can follow up with the customers that buy the most and who we can sell more.	A Power BI dashboard that allows me to filter data for each customer.

2- Data Cleaning and Transformation with SQL

To create the necessary data model for data analysis and fulfilling our business request, the following tables were extracted from the database by using SQL.

I used 4 tables from the database and a table sent to us from Sales Manager.

The SQL statements for cleaning and transforming necessary data are shown below.

DimCustomer Table:

```
--Cleaned DimCustomer Table--

SELECT
    c.[CustomerKey] AS [Customer Key]
    --[GeographyKey]
    --[CustomerAlternateKey]
    --[Title]
    --[FirstName]
    --[MiddleName]
    --[LastName]
    ,
    CONCAT(c.FirstName, ' ', c.MiddleName, ' ', c.LastName) AS [Customer Name] -- Concatenating customer's first, middle and last name columns on one column.
    --[NameStyle]
    --[BirthDate]
    --[MaritalStatus]
    --[Suffix]
    --[Gender]
    ,
    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 [Date First Purchase]
    --[CommuteDistance]
    ,
    g.City AS [Customer City] -- Joined Customer's City information from Geography Table.
FROM
    [AdventureWorksDW2019].[dbo].[DimCustomer] AS c
    LEFT JOIN DimGeography AS g on c.GeographyKey = g.GeographyKey
ORDER BY
    c.CustomerKey
```

DimProduct Table:

```
--Cleaned DimProduct Table--

SELECT
    p.[ProductKey] AS [Product Key],
    p.[ProductAlternateKey] AS [Product Alternate Key]
    --[ProductSubcategoryKey]
    --[WeightUnitMeasureCode]
    --[SizeUnitMeasureCode]
    ,
    p.[EnglishProductName] AS [Product Name],
    pc.ProductCategoryKey AS [Product Key],          -- Joined Product Sub Category Key information from Product Sub Category Table
    ps.ProductSubcategoryKey AS [Product Subcategory Key], -- Joined Product Category Key information from Product Category Table
    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]
    --[Class]
    --[Style]
    --[ModelName]
    --[LargePhoto]
    ,
    p.[EnglishDescription] AS [Product Description]
    --[FrenchDescription]
    --[ChineseDescription]
    --[ArabicDescription]
    --[HebrewDescription]
    --[ThaiDescription]
    --[GermanDescription]
    --[JapaneseDescription]
    --[TurkishDescription]
    --[StartDate]
    --[EndDate]
    --[Status]
    ,
    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
```

DimDate Table:

--Cleaned DimDate Table--

```
SELECT
    [DateKey] AS [Date Key]
    , [FullDateAlternateKey] AS DATE
    -- [DayNumberOfWeek]
    ,
    [EnglishDayNameOfWeek] AS DAY
    -- [SpanishDayNameOfWeek]
    -- [FrenchDayNameOfWeek]
    -- [DayNumberOfMonth]
    -- [DayNumberOfYear]
    ,
    [WeekNumberOfYear] AS [Week Number],
    [EnglishMonthName] AS Month
    -- [SpanishMonthName]
    -- [FrenchMonthName]
    ,
    [MonthNumberOfYear] AS [Month Number],
    [CalendarQuarter] AS Quarter,
    [CalendarYear] AS YEAR
    -- [CalendarSemester]
    -- [FiscalQuarter]
    -- [FiscalYear]
    -- [FiscalSemester]
FROM
    [AdventureWorksDW2019].[dbo].[DimDate]
WHERE CalendarYear >= 2021
```

FactInternetSales Table:

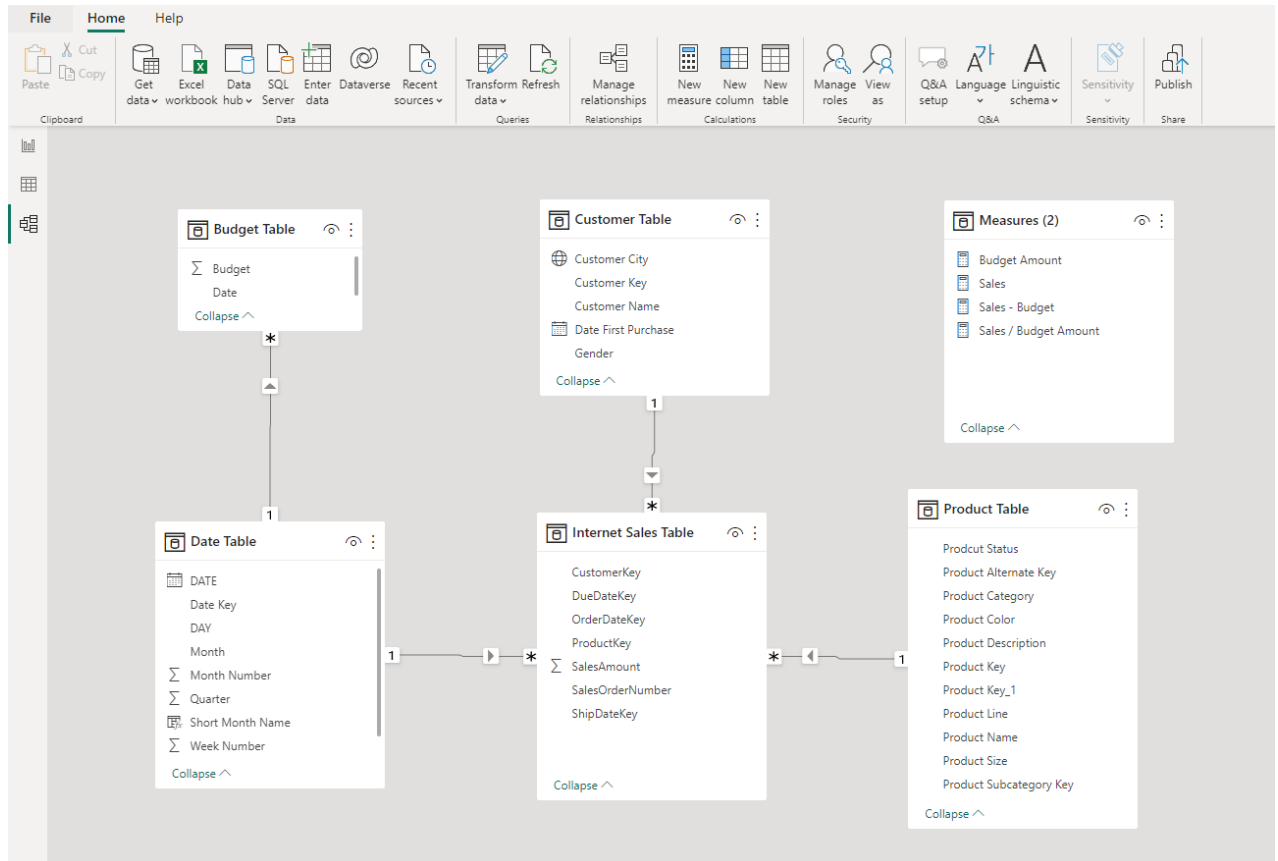
--Cleaned FactInternetSales Table--

```
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 (OrderDate, 4) >= '2021' -- Ensures that bring only 2021 and after dated data because we are focusing last 2 year for sales analys.
ORDER BY
    OrderDateKey ASC
```

3- Data Model

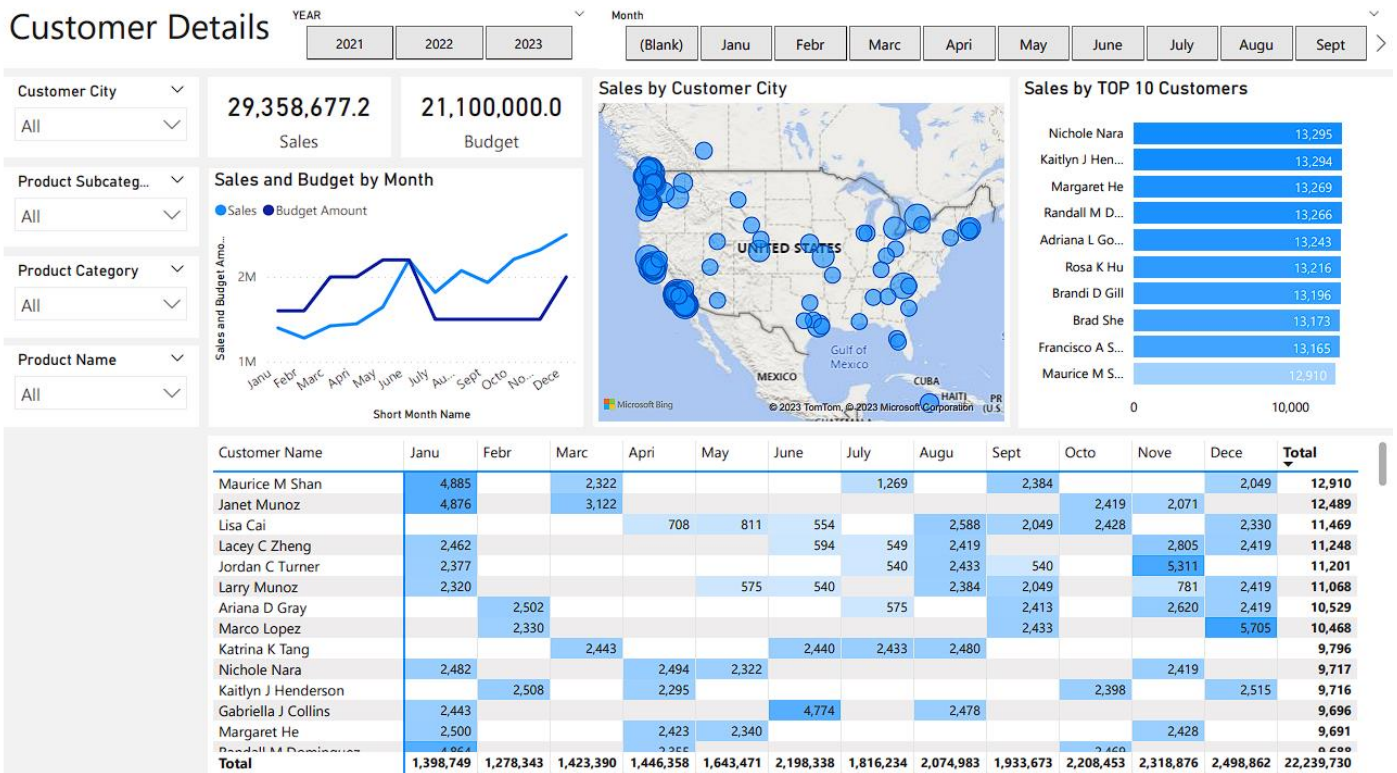
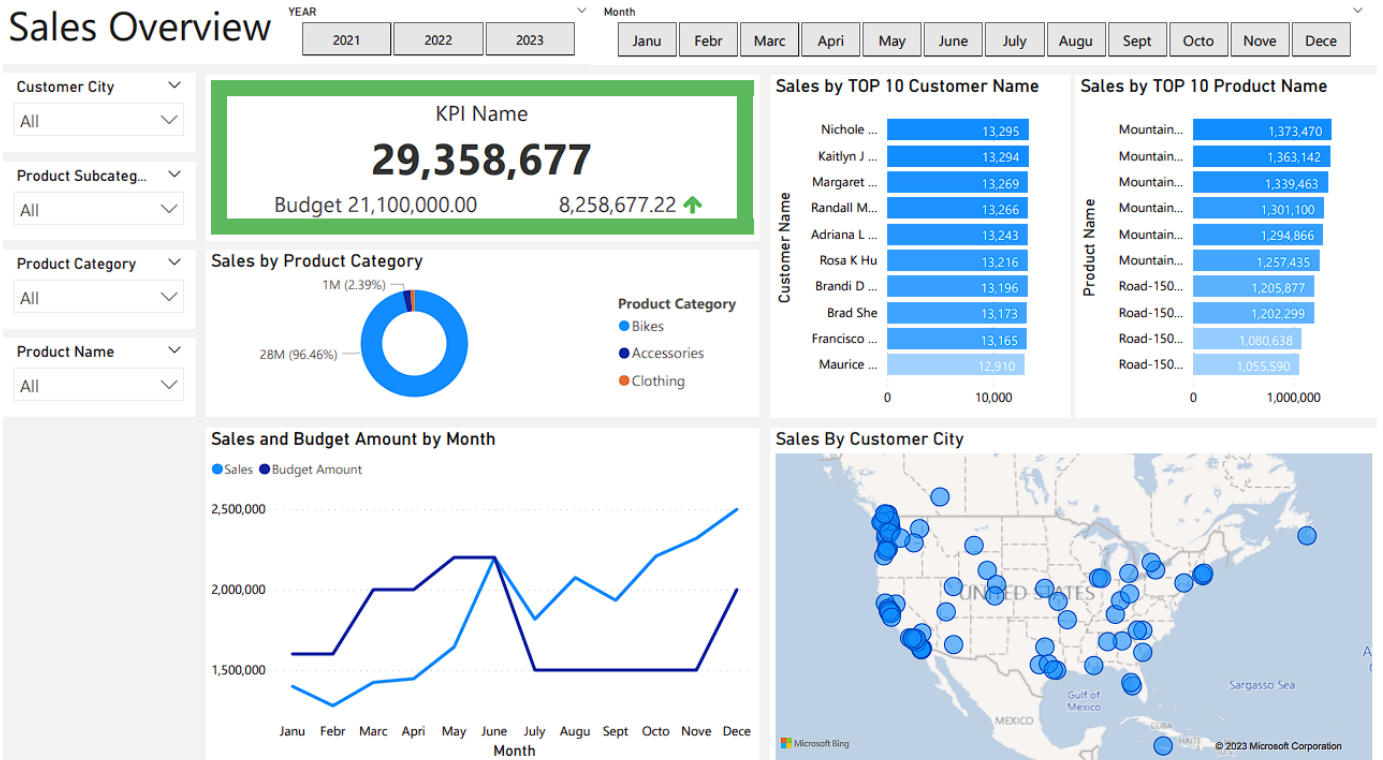
I created data model after cleaned and prepared tables which were imported into Power BI shown below.

You can see that which and how tables are integrated with each other.



4- Sales Management Dashboard

In the light of the data analyses given above, I created three paged Sales Management Dashboard which are Sales Overview, Customer Details and Product Details.



Product Details

Customer City

All

Product Subcateg...

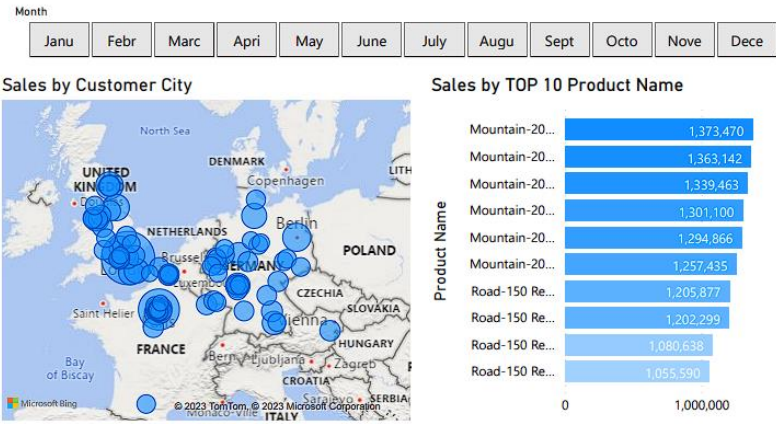
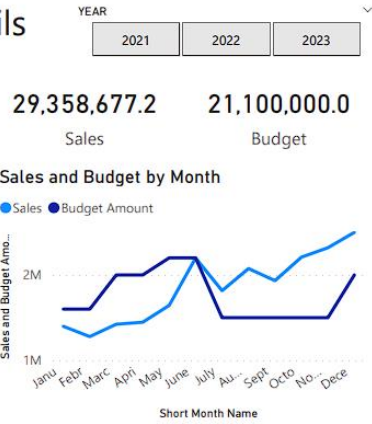
All

Product Category

All

Product Name

All



Product Name	Janu	Febr	Marc	Apri	May	June	July	Augu	Sept	Octo	Nov	Dece	Total
Mountain-200 Black, 46	90,652	90,652	78,112	82,947	91,882	149,912	125,651	125,159	116,717	119,258	153,191	147,289	1,371,420
Mountain-200 Black, 42	65,899	74,587	78,603	79,669	112,045	143,765	96,554	126,880	131,716	126,880	156,305	170,239	1,363,142
Mountain-200 Silver, 38	88,988	58,331	78,465	89,817	90,811	110,531	109,205	118,734	116,165	144,005	140,111	194,299	1,339,463
Mountain-200 Silver, 46	47,228	52,945	68,108	80,785	88,491	109,371	126,688	141,188	128,594	132,488	167,205	158,008	1,301,100
Mountain-200 Black, 38	74,259	46,719	76,554	67,948	70,407	126,880	118,684	146,060	108,274	133,519	170,567	150,896	1,290,768
Mountain-200 Silver, 42	71,754	53,443	93,131	83,105	78,714	123,374	96,528	116,662	99,345	129,091	143,259	166,956	1,255,363
Road-250 Black, 52	78,624	61,258	69,374	67,192	69,635	97,734	51,659	45,987	41,101	63,702	43,806	39,966	730,038
Road-250 Red, 58	78,100	69,985	59,339	68,850	61,258	60,124	62,567	44,853	41,886	52,794	44,940	51,398	696,093
Road-250 Black, 48	98,519	87,088	56,023	56,546	37,785	78,624	36,476	65,011	59,600	44,853	28,273	42,410	691,206
Road-250 Black, 44	91,364	59,862	63,614	44,329	39,181	44,329	50,350	55,499	44,329	39,443	50,350	39,181	621,833
Road-250 Black, 58	57,419	51,747	59,862	47,907	49,740	59,862	47,820	40,577	45,987	50,089	51,398	57,419	619,826
Touring-1000 Blue, 46	11,920	4,768	16,688	26,225	30,993	42,913	42,913	54,834	47,681	61,986	42,913	38,145	421,980
Road-350-W Yellow, 40	15,309	20,412	20,412	20,412	40,824	35,721	32,319	42,525	40,824	42,525	66,339		418,444
Total	1,398,749	1,278,343	1,423,390	1,446,358	1,643,471	2,198,338	1,816,234	2,074,983	1,933,673	2,208,453	2,318,876	2,498,862	22,239,730

You can also click this sentence to open this dashboard online and use it dynamically.