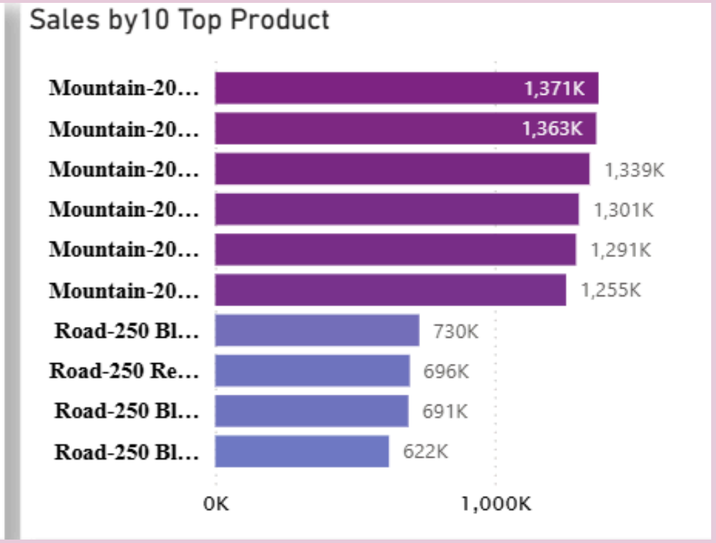
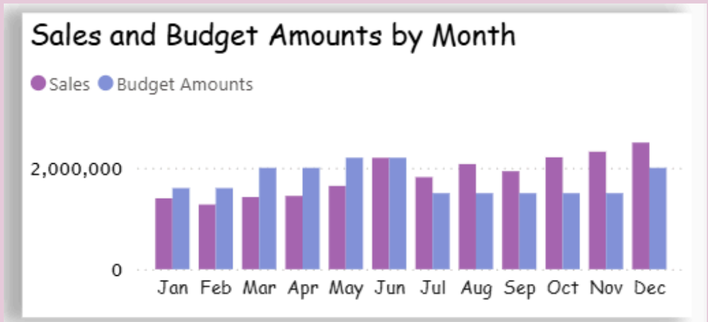
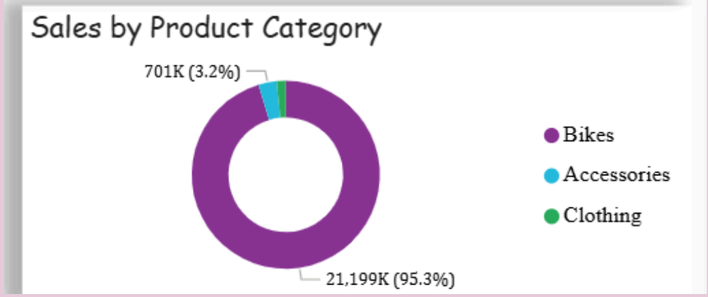
Hello everyone,

In this project, I completed a full data transformation and reporting project using SQL and Power BI—starting from raw business requests all the way to delivering an interactive dashboard with meaningful insights.







Project Title:

End-to-End Data Transformation & Reporting for Sales Dashboard

Objective:

Prepare clean, reliable data from a data warehouse and create a professional, interactive sales dashboard comparing actual vs budget sales.

Business Request:

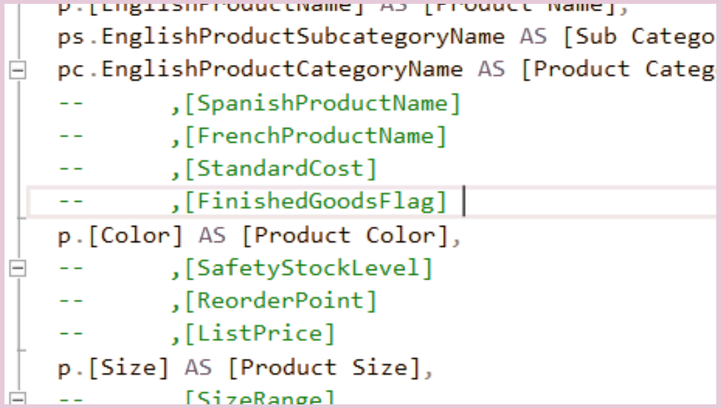
The Sales Manager wanted:

- A dynamic dashboard instead of static reports
- Breakdown of sales by product, customer, time
- Ability to filter by salesperson
- Sales vs. 2021 budget comparison

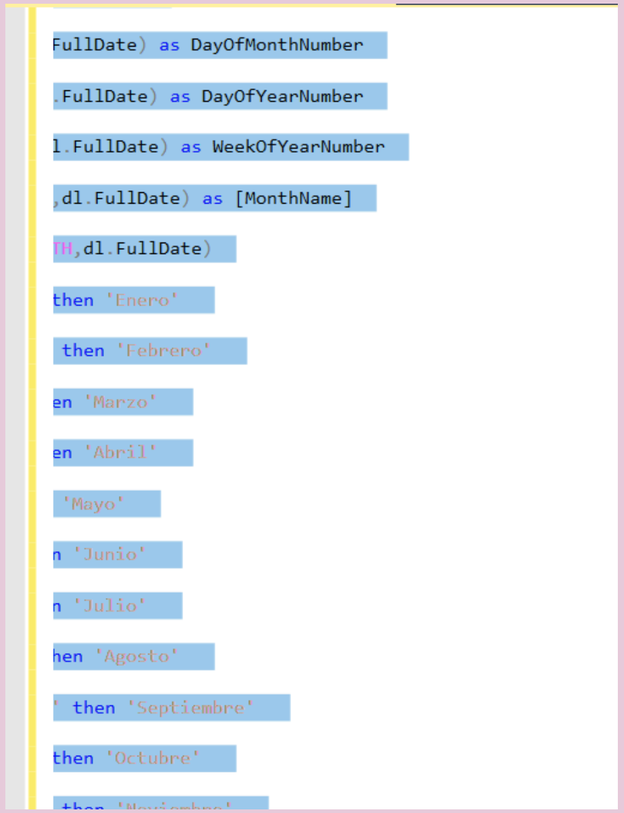
What I Did:

SQL Data Cleaning & Preparation

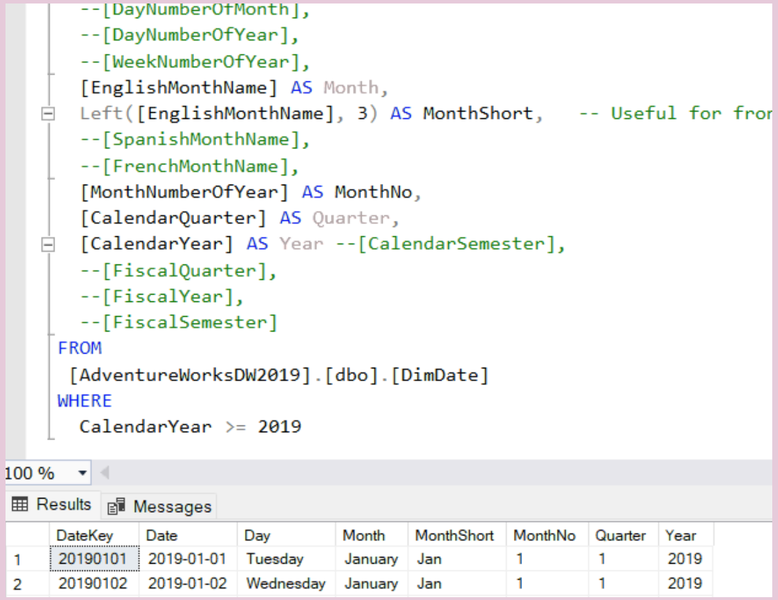
- Extracted and cleaned data from AdventureWorksDW:
  - FactInternetSales, DimDate, DimProduct, DimCustomer
- Transformed using T-SQL:
  - Removed unnecessary columns
  - Created readable fields (e.g., FullName)
  - Joined product and customer metadata
  - Filtered sales from the last two years
- Exported clean CSVs ready for BI tools



```
p.[EnglishProductName] AS [Product Name],
ps.EnglishProductSubcategoryName AS [Sub Catego
pc.EnglishProductCategoryName AS [Product Categ
--      ,[SpanishProductName]
--      ,[FrenchProductName]
--      ,[StandardCost]
--      ,[FinishedGoodsFlag]
p.[Color] AS [Product Color],
--      ,[SafetyStockLevel]
--      ,[ReorderPoint]
--      ,[ListPrice]
p.[Size] AS [Product Size],
--      [SizeRange]
```



```
FullDate) as DayOfMonthNumber
.FullDate) as DayOfYearNumber
l.FullDate) as WeekOfYearNumber
,dl.FullDate) as [MonthName]
TH,dl.FullDate)
then 'Enero'
then 'Febrero'
en 'Marzo'
en 'Abril'
'Mayo'
n 'Junio'
n 'Julio'
hen 'Agosto'
' then 'Septiembre'
then 'Octubre'
```

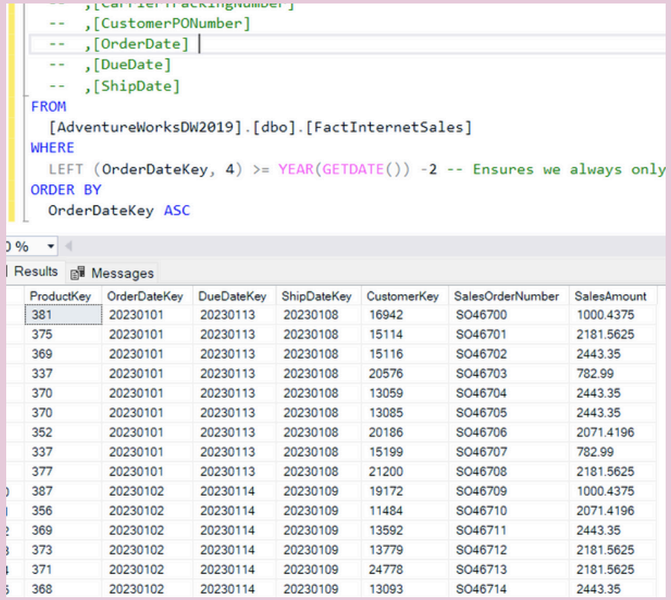


```
--[DayNumberOfMonth],
--[DayNumberOfYear],
--[WeekNumberOfYear],
[EnglishMonthName] AS Month,
Left([EnglishMonthName], 3) AS MonthShort,    -- Useful for fror
--[SpanishMonthName],
--[FrenchMonthName],
[MonthNumberOfYear] AS MonthNo,
[CalendarQuarter] AS Quarter,
[CalendarYear] AS Year --[CalendarSemester],
--[FiscalQuarter],
--[FiscalYear],
--[FiscalSemester]
FROM
 [AdventureWorksDW2019].[dbo].[DimDate]
WHERE
  CalendarYear >= 2019
```

100 %

Results | Messages

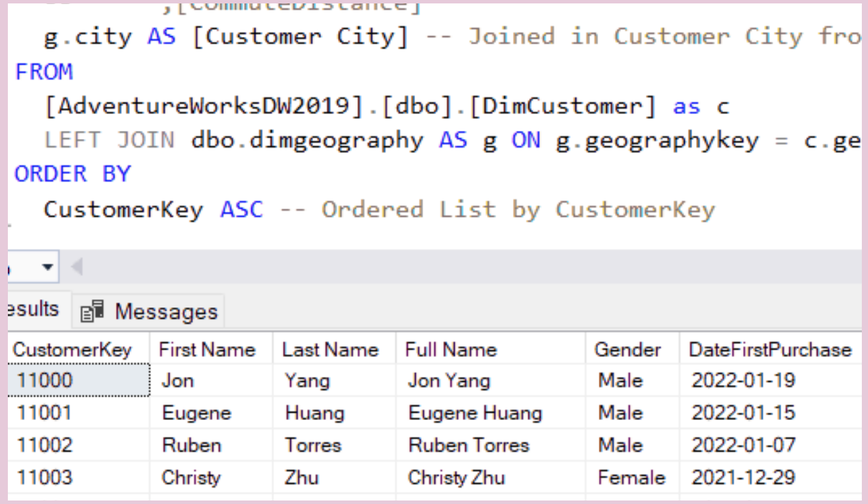
	DateKey	Date	Day	Month	MonthShort	MonthNo	Quarter	Year
1	20190101	2019-01-01	Tuesday	January	Jan	1	1	2019
2	20190102	2019-01-02	Wednesday	January	Jan	1	1	2019



```
--  ,[CustomerPONumber]
--  ,[OrderDate]
--  ,[DueDate]
--  ,[ShipDate]
FROM
  [AdventureWorksDW2019].[dbo].[FactInternetSales]
WHERE
  LEFT (OrderDateKey, 4) >= YEAR(GETDATE()) -2 -- Ensures we always only
ORDER BY
  OrderDateKey ASC
```

Results | Messages

ProductKey	OrderDateKey	DueDateKey	ShipDateKey	CustomerKey	SalesOrderNumber	SalesAmount
381	20230101	20230113	20230108	16942	SO46700	1000.4375
375	20230101	20230113	20230108	15114	SO46701	2181.5625
369	20230101	20230113	20230108	15116	SO46702	2443.35
337	20230101	20230113	20230108	20576	SO46703	782.99
370	20230101	20230113	20230108	13059	SO46704	2443.35
370	20230101	20230113	20230108	13085	SO46705	2443.35
352	20230101	20230113	20230108	20186	SO46706	2071.4196
337	20230101	20230113	20230108	15199	SO46707	782.99
377	20230101	20230113	20230108	21200	SO46708	2181.5625
387	20230102	20230114	20230109	19172	SO46709	1000.4375
356	20230102	20230114	20230109	11484	SO46710	2071.4196
369	20230102	20230114	20230109	13592	SO46711	2443.35
373	20230102	20230114	20230109	13779	SO46712	2181.5625
371	20230102	20230114	20230109	24778	SO46713	2181.5625
368	20230102	20230114	20230109	13093	SO46714	2443.35



```
,[CommuteDistance]
  g.city AS [Customer City] -- Joined in Customer City fro
FROM
  [AdventureWorksDW2019].[dbo].[DimCustomer] as c
  LEFT JOIN dbo.dimgeography AS g ON g.geographykey = c.ge
ORDER BY
  CustomerKey ASC -- Ordered List by CustomerKey
```

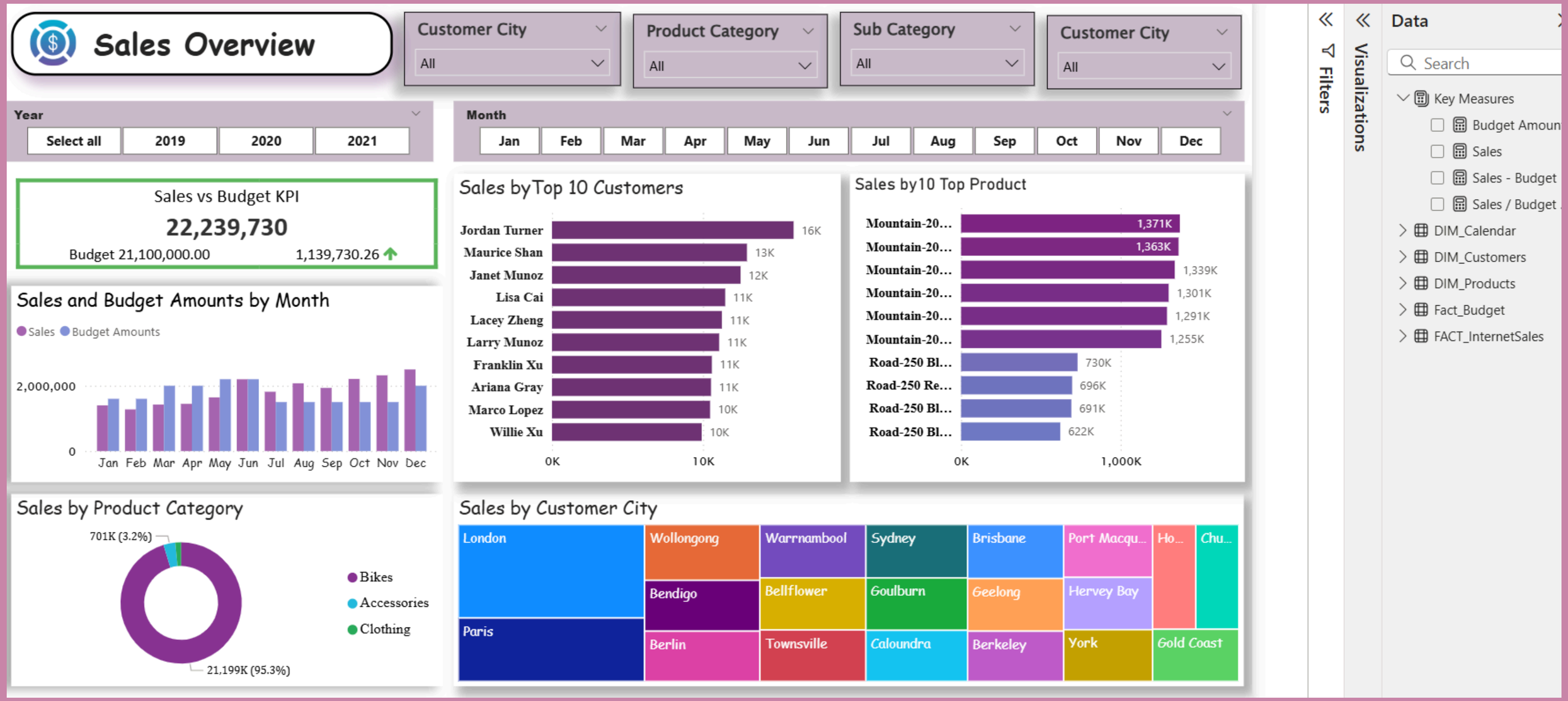
esults | Messages

CustomerKey	First Name	Last Name	Full Name	Gender	DateFirstPurchase
11000	Jon	Yang	Jon Yang	Male	2022-01-19
11001	Eugene	Huang	Eugene Huang	Male	2022-01-15
11002	Ruben	Torres	Ruben Torres	Male	2022-01-07
11003	Christy	Zhu	Christy Zhu	Female	2021-12-29

Power BI Modeling & Dashboard Design

- Imported cleaned data into Power BI
- Created star schema model (Fact + Dimensions)
- Built DAX measures:
  - Total Sales, Budget Amount, Variance %, KPIs
- Designed interactive visuals:
  - Filters for year, month, city, product
  - KPIs, bar/line/donut charts, and maps
- Published online via Power BI Service

My Dashboard



My Dashboard

Customer Detail

Customer City: All

Product Category: All

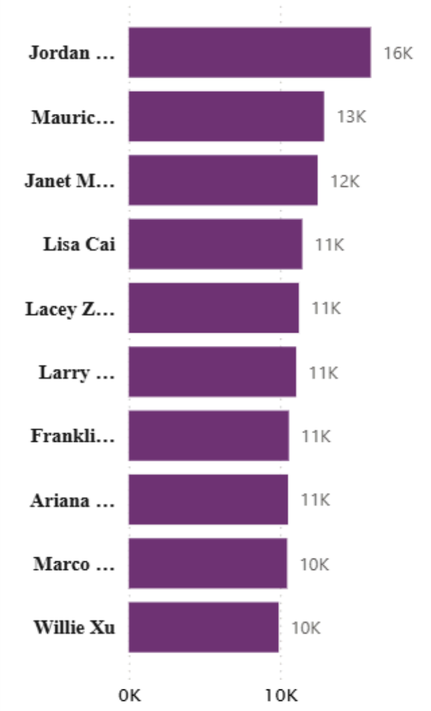
Sub Category: All

Customer City: All

Year: Select all | 2019 | 2020 | 2021

Month: Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

Sales byTop 10 Customers



Customers	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Aaron Campbell									1,155				1,155
Aaron Hill				36									36
Aaron Powell						5							5
Abby Martinez			55										55
Abby Raman									2,326	2,071		796	5,194
Abby Sanchez						2,443							2,443
Abigail Barnes						590					783		1,373
Abigail Bell				72									72
Abigail Griffin			783								1,736		2,519
Abigail Washington									3,961				3,961
Adam Flores											3,140		3,140
Adam Hall										75			75
Adam Hill			2,478										2,478
Adam Powell							1,755	2,182					3,937
Adam Ross			2,364				2,452						4,816
Adrian Ward			72										72
Adrian Watson			117			27							145
Adriana Kapoor		39											39
Adriana Madan							4,435						4,435
Adriana Mehta											2,322	2,071	4,394
Adriana Rana	100												100
Adriana Sanchez					786								786
Adriana Vance												1,745	1,745
Total	**262,705**	**243,735**	**331,983**	**356,370**	**361,132**	**501,083**	**412,103**	**449,874**	**449,827**	**451,285**	**467,255**	**589,433**	**4,876,786**

Filters

Visualizations

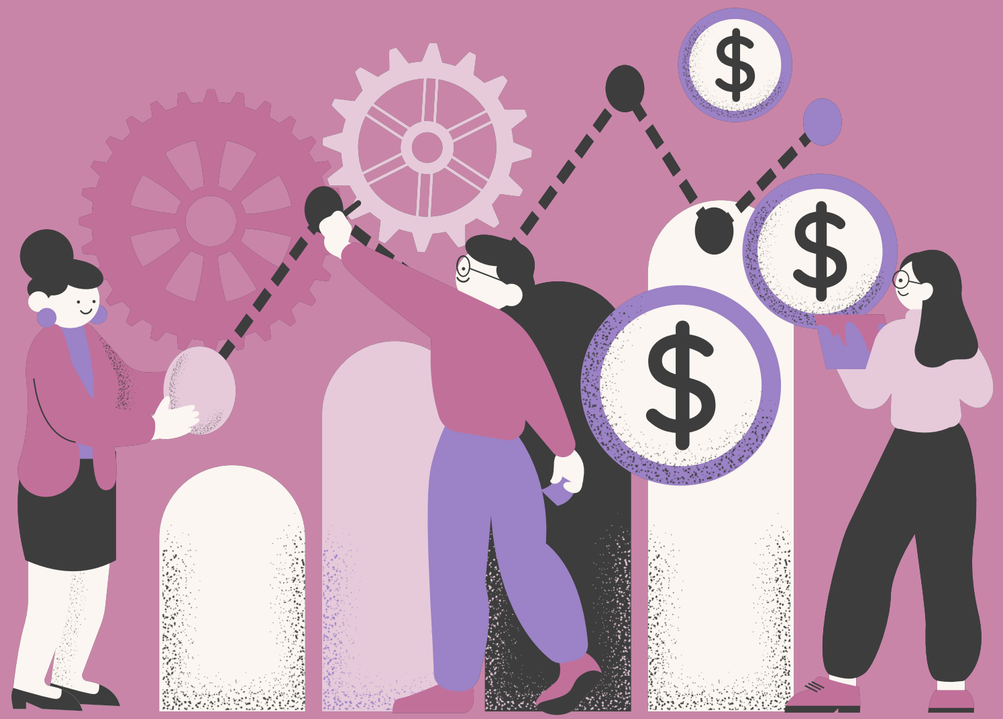
Data

Search

- Key Measures
  - Budget Amounts
  - Sales
  - Sales - Budget
  - Sales / Budget ...
- DIM_Calendar
- DIM_Customers
- DIM_Products
- Fact_Budget
- FACT_InternetSales

Tools & Techniques:

- SQL Server, T-SQL, Power Query, Power BI, DAX, Excel
- Star Schema Modeling
- Agile Requirements (User Stories)



Outcome:

Delivered a clean, dynamic dashboard that helps sales teams:

- Track performance vs budget
- Analyze trends and top customers/products
- Make informed business decisions

Thanks a lot for your attention!