Portfolio

ADVENTUREWORKS

DASHBOARD CREATION

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JUMP TO:

ADVENTUREWORKS, INC.

the BACKGROUND

Based in Bothell, Washington, **AdventureWorks, Inc.** is a multinational manufacturer and seller of bicycles and bicycle accessories. The sales manager - Stephen Marshall - a need for an accessible and up-to-date executive sales report to rapidly assess departmental success.

PROBLEM

Stephen, the **Sales Manager** at **Awesomeworks, Inc.**, would like improve sales reports. He requests that a switch be made from static reports to visual dashboards.

BUSINESS TASK

- Create dashboards that track **quantity of products sold**, **client orders**, and **purchases over time**.
- Give sales reps the ability to **filter** customer and product data
- **Track** and **measure** sales numbers against the FY'2021 annual budget (in a spreadsheet) to compare value against performance.
- The budget typically looks back 2 years when performing the sales analysis.

DELIVERABLES

- Dynamic Tableau dashboards
- Sales vs. Budget Analysis
- Customer Order Analysis Summary
- Product Analysis Report Summary

the BUSINESS DEMAND OVERVIEW

Reporter:
Stephen Marshall, *Sales Manager*

Necessary Systems:
- Tableau
- CRM System

Change Value:
- Visual Dashboards
- Improved sales reporting for the sales force.

Other Relevant Info:
- Budgets delivered in Excel for FY'21
- Uses historical data up to 2 years

| No.	As a (role)	I want (request/demand)	So that i (user value)	Acceptance Criteria
1	Sales Manager	To have a dynamic dashboard overview of sales	can follow which products sell the best and the customers that purchase them	A tableau dashboard which updates 1x daily
2	Sales Rep	a detailed overview of sales per customer	can follow up with frequent buyers more likely to purchase more	A tableau dashboard that allows me to filter data for each customer
3	Sales Rep	a detailed overview of sales per customer	can track products that sell the most	A tableau dashboard that allows me to filter data for each customer
4	Sales Manager	a dashboard overview of internet sales	track sales over time and compare it against budget	A tableau dashboard with graphs and KPIs comparing against budget.

100%

1st-Party Data

30

Total Tables

MSSQL

Database

OPEN

License

the
DATA
INFORMATION
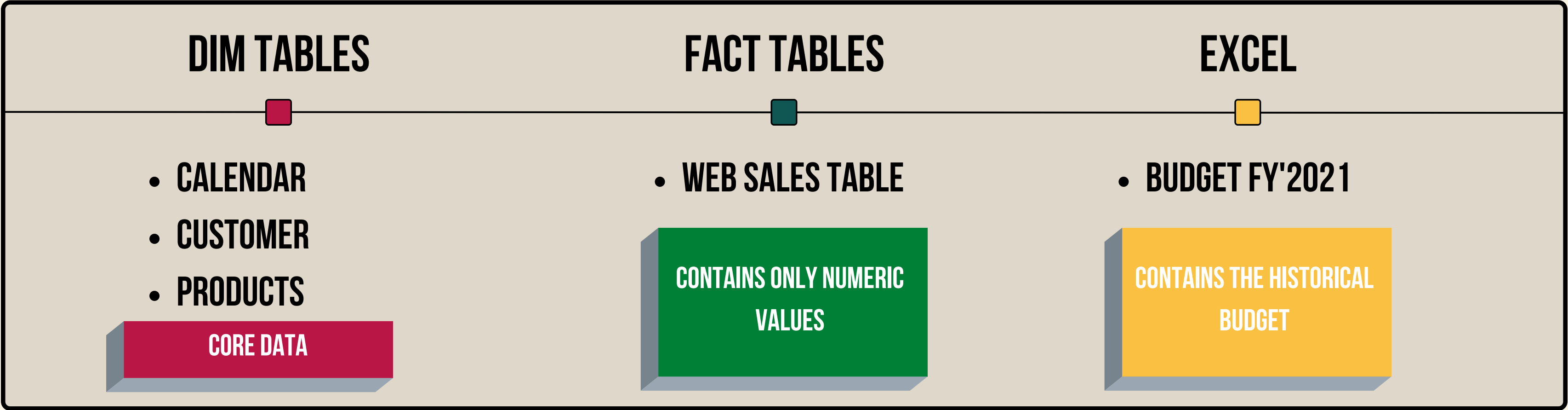
CLEANING & TRANSFORMING

To set up for data modeling, the following SQL statements were used for cleansing and transforming necessary data:

```sql
--Cleansed DIM_Date Table--
SELECT
  DateKey,
  FullDateAlternateKey Date,
  EnglishDayNameOfWeek Day,
  EnglishMonthName Month,
  LEFT(EnglishMonthName, 3) as MonthShort,
  MonthNumberofYear MonthNo,
  CalendarQuarter Quarter,
  CalendarYear as Year
FROM
  dbo.DimDate -- Sales Manager wanted sales numbers for 2019 --
WHERE
  CalendarYear >= 2019
```

```sql
-- Cleansed Products Table
SELECT
  p.ProductKey,
  p.[ProductAlternateKey] AS ProductItemCode,
  p.EnglishProductName [Product Name],
  ps.EnglishProductSubcategoryName [Sub Category],
  --Joined from 'Sub Category' table
  pc.EnglishProductCategoryName [Product Category],
  --Joined from 'Category' table
  p.Color [Product Color],
  p.Size [Product Size],
  p.ProductLine [Product Line],
  p.ModelName [Product Model Name],
  p.EnglishDescription [Product Description],
  ISNULL (p.Status, 'Outdated') [Product Status] -- Differentiates between current/outdated results
FROM
  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
```

```sql
-- Cleansed sales table
SELECT
  ProductKey,
  OrderDateKey,
  DueDateKey,
  ShipDateKey,
  CustomerKey,
  SalesOrderNumber,
  round(SalesAmount, 2)
FROM
  dbo.FactInternetSales
WHERE
  LEFT (OrderDateKey, 4) >= Year(
    GetDate()
  ) -2 -- Limiting extraction to 2 years
ORDER BY
  OrderDateKey asc
```

```sql
-- Cleansed Customer Table
SELECT
  c.customerkey CustomerKey,
  c.firstname [First Name],
  c.lastname [Last Name],
  c.firstname + ' ' + lastname [Full Name],
  -- Convert Single letters to full description
  CASE c.gender WHEN 'M' Then 'Male' WHEN 'F' Then 'Female' END
    AS Gender,
  c.datefirstpurchase DateFirstPurchase,
  g.city [Customer City] -- joining Customer City from
    Geography table.
FROM
  dbo.dimcustomer as c
  LEFT JOIN dbo.dimgeography as g on g.geographykey = c
    .geographykey
ORDER BY
  CustomerKey ASC -- Ordered list by Customer Key
```

data
MODELING

The model represents the cleansed and prepared tables that were loaded into Power BI.

All DIM tables relate to 'Sales' while the 'Budget' spreadsheet relates to the 'DIM_Calendar' table.
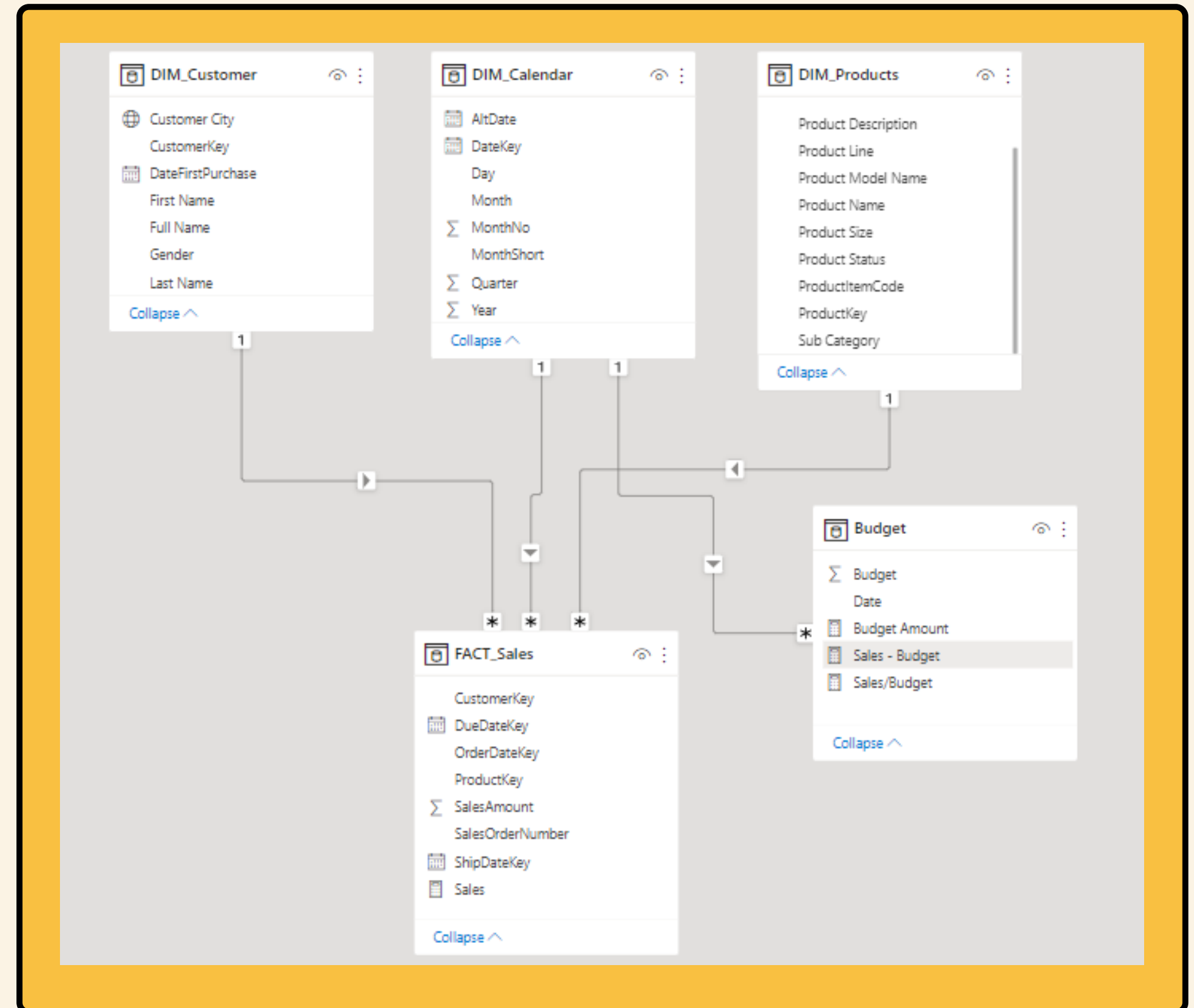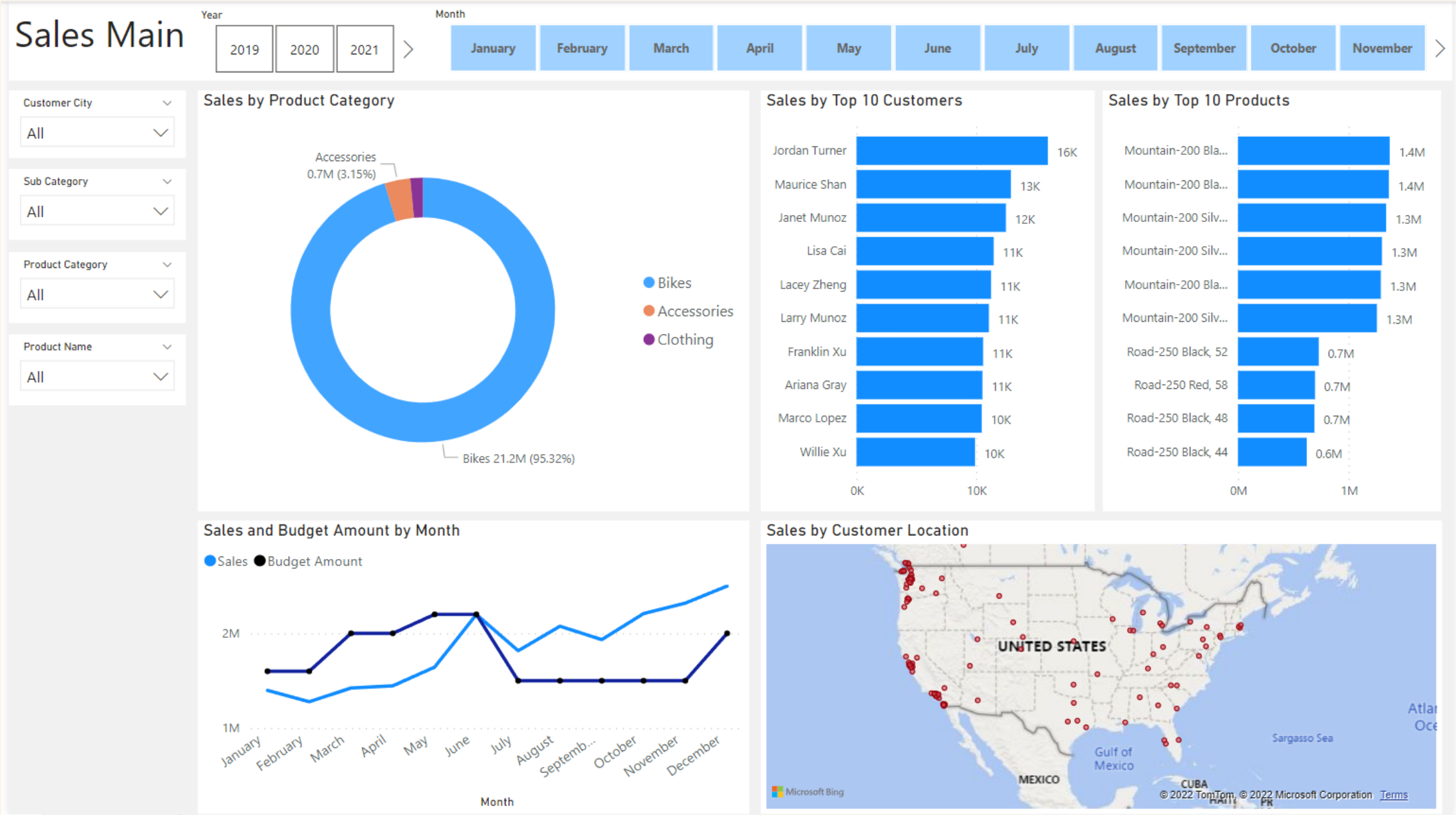
FINAL DASHBOARD

The final dashboard meets the user cases and provides insights into products sold by category, customer, and location.

Stephen can now track sales over time, compare it to budget, and quickly drill down on opportunities to market, upsell, or target key accounts.

Click the yellow button to view the dashboard in action!

CLICK TO VIEW DASHBOARD

Thank You

END.

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