

Final Project Power BI

Power BI Report on
Adventure Works

Name: Petraki Tzanasi
Date: 21/02/2024

Introduction

- **Objective:** The primary objective of this project is to apply the skills acquired throughout the course by creating a comprehensive Power BI report. This project serves as a portfolio piece, demonstrating proficiency in data analysis and visualization techniques to potential employers.
- **Company Studied:** Adventure Works Sales Online

Project Overview

- Sales Analysis
- Customers
- Product Details
- Geospatial
- Mobile Overview

Skills used to complete the project:

(Data preparation, Data cleaning, Formatting, Calculated columns, Data modelling, Power Query, Dax, Advanced analytics, Sharing, Power Bi Service, Report design, Mobile optimisation)

Data Preparation Steps:

1. Data Exploration:

- Studied the data form Adventure Works to understand its structure and contents.
- Identified the dataset as the focus of the analysis.

2. Data Loading and Transformation in Power BI:

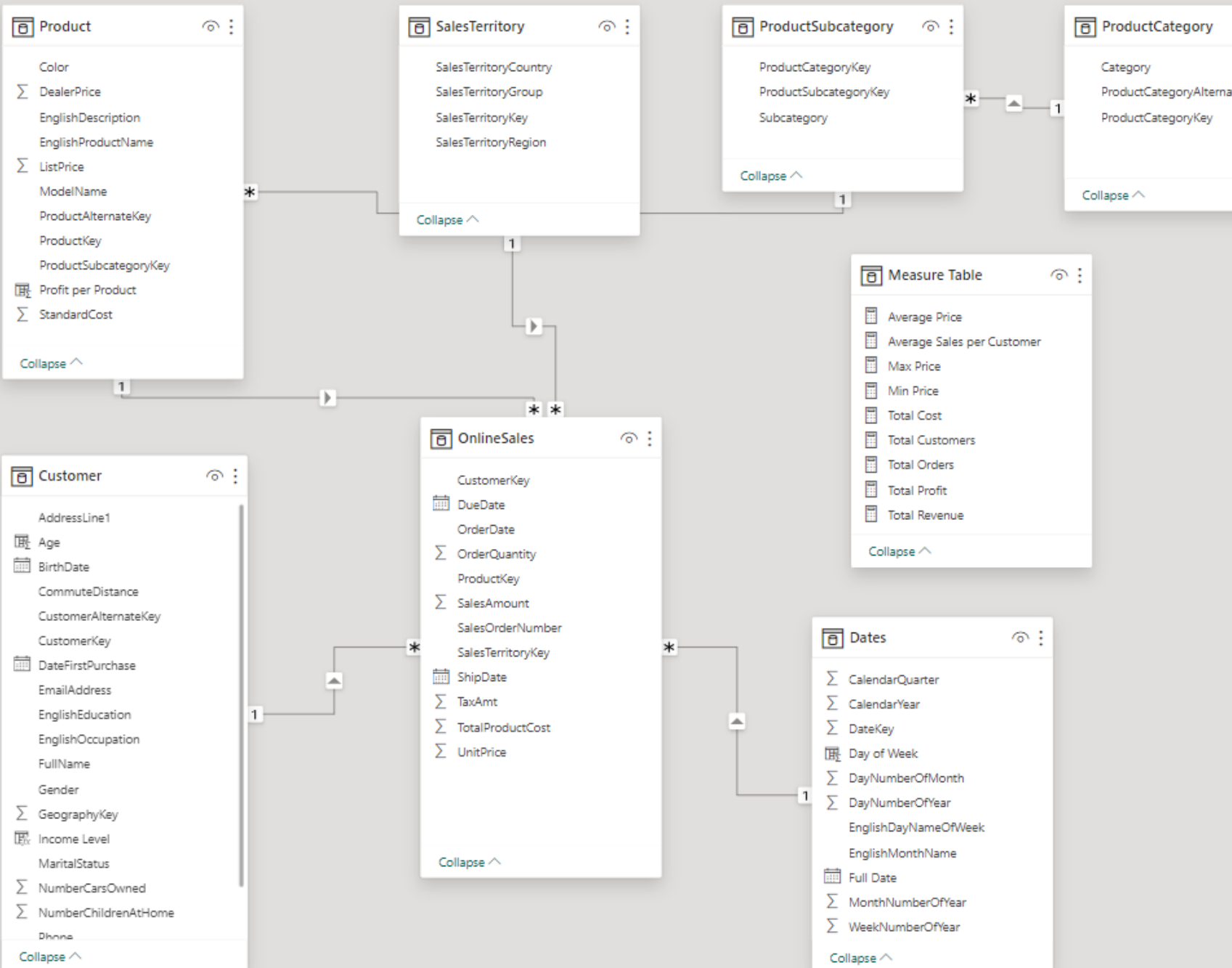
- Imported the Adventure Works dataset into Power BI
- Conducted data transformation tasks to prepare the dataset for analysis and visualisation

3. Data Cleaning Process:

- Removed duplicates values
- Eliminated unnecessary columns
- Handled empty values by either removing or replacing them
- Formatted columns to the correct data type
- Split and merged columns as needed
- Renamed new columns for clarity in reporting
- Applied filters and replaced values

Data Modeling

- Identified and created relationships between the tables within the data set to enable meaningful analysis
- Created Calculated Columns based on existing data within the tables to have new data points.
- Created a table with Measures to perform calculations and aggregations, aiding in analysis and visualization.



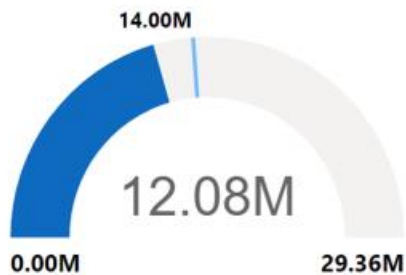
29.4M

Total Revenue

12.1M

Total Profit

Total Profit and Total Revenue



60.4K

Total Orders

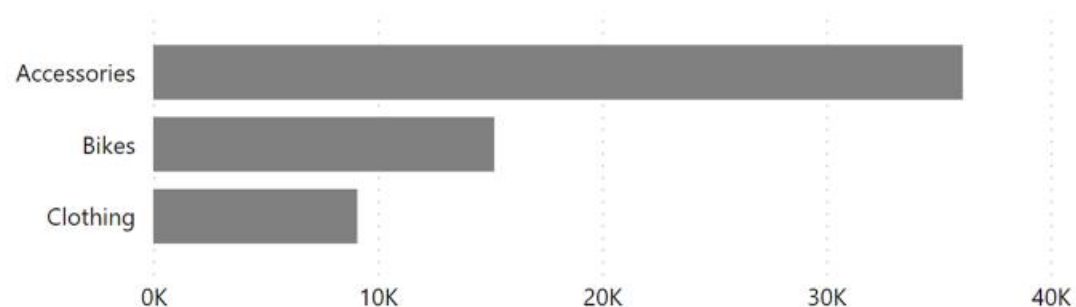
18.5K

Total Customers

Total Revenue by Year and Month



Orders by Category



Sales Distribution by Category

Category

Subcategory



01/01/2005

31/12/2010

Sales Report Overview

- Used cards to present key sales metrics such as total sales, profit, total orders and total customers providing a quick snapshot of performance
- Used a gauge visual to compare profit against total sales and a desirable target of profit
- Added a line chart to illustrate the trend of total sales over the years
- Utilize a stacked bar chart to display sales categories
- Implemented a decomposition tree visual to show the distribution of sales, allowing for exploration of sales by categories and subcategories.
- Integrated a date filter to enable to filter the page to specific date ranges for analysis, exploring sales data over different time periods.
- Created a navigator on the left pane for easy navigation across pages
- Assigned action to each button for easy navigation and interaction within the report, enhancing user experience and usability

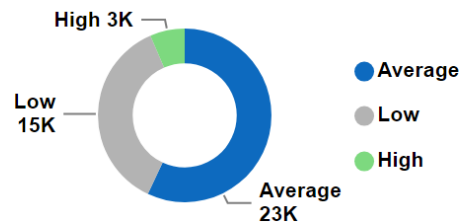
18.5K

Total Customers

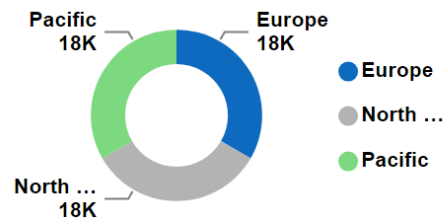
1.6K

Average Sales

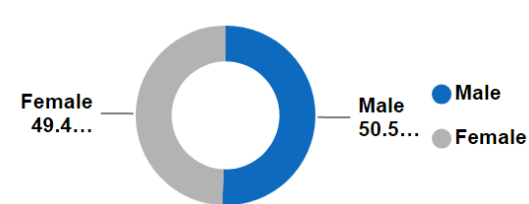
Orders by Occupation Level



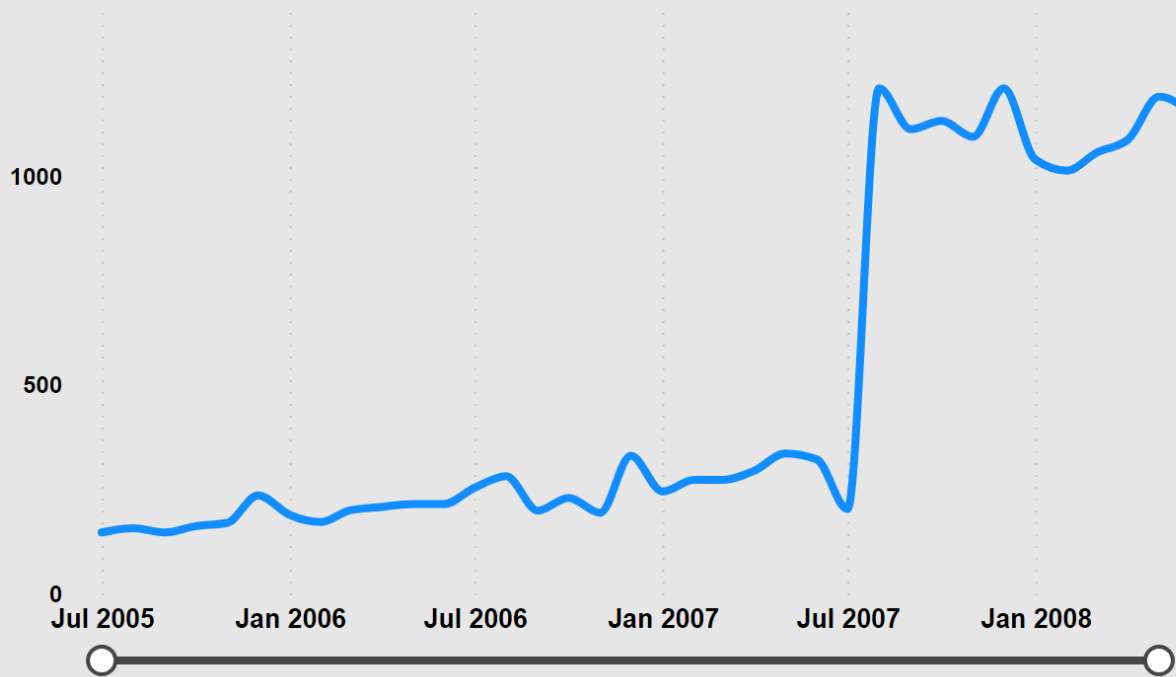
Customers by TerritoryGroup



Total Customers by Gender



Total Customers by Year



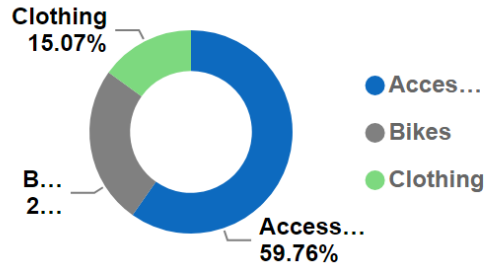
Top 15 Customers by Sales

FullName	Orders	Revenue
Ashley Henderson	68	1,616.31
Fernando Barnes	67	1,500.52
Jason Griffin	55	1,463.38
Charles Jackson	65	1,434.99
Samantha Jenkins	58	1,329.31
Mason Roberts	60	1,320.01
Hailey Patterson	56	1,205.38
Dalton Perez	59	1,189.33
Henry Garcia	62	1,167.07
Ryan Thompson	57	1,136.35
Jennifer Simmons	63	1,126.82
Daniel Davis	55	1,103.78
Jared Peterson	43	1,026.29
April Shan	58	1,006.83
Alexandra Jenkins	34	1,002.09
Nancy Chapman	57	988.32
Eduardo Patterson	36	980.77
Jasmine Powell	36	846.77
Jerome Navarro	36	757.27
Total	1061	22,950.19

Customer Report Overview

- Utilized cards to showcase important customer metrics, including total customer and average sales.
- Used DAX to create two new columns:
 - Age of Customers
 - Level of Yearly Incomes (Low, Average, High)
- Added three donut charts to visualize customer demographics based on occupation, territory and gender
- Utilized a line chart to illustrate the trend of total customers over the years, allowing for the identification of customer growth patterns.
- Implemented a zoom slider to enable filtering the chart by specific years.
- Presented a table showcasing the top 15 customers ranked by sales, providing insights into the highest performing customers

Total Orders by Category



£1.49K

Max of Profit per Product

6440

Most Unit Sold

£1.43

Min of Profit per Product

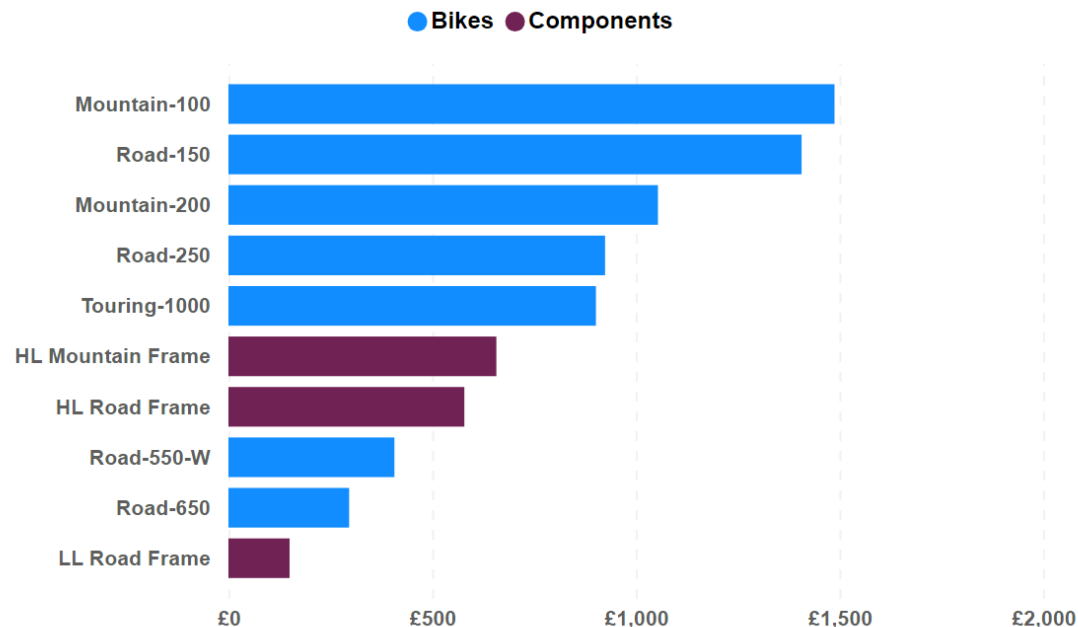
Accessories

Clothing

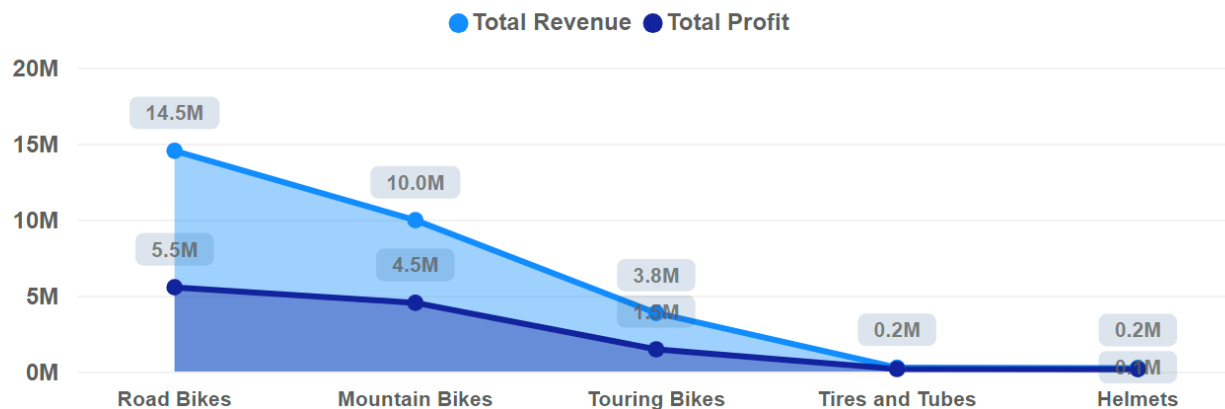
Bikes

Components

Top 10 Most Profitable Products



Total Revenue and Total Profit by Subcategory



Accessories

700,759.96

Total Revenue

262,160.31

Total Cost

438,599.65

Total Profit

Bikes

28,318,145.32

Total Revenue

16,812,346.39

Total Cost

11,505,798.93

Total Profit

Clothing

339,772.61

Total Revenue

203,351.36

Total Cost

136,421.25

Total Profit

Product Details Report Overview

- Implemented a donut chart to visualize orders by product categories
- Utilized three cards to display important product metrics (used measures to calculate and display these key metrics)
- Introduced a stacked bar chart to showcase the top 10 most profitable products, to identify the high-performing products
- Added an area chart to compare total revenue and total profit by subcategory, filtered by the top 5 subcategories by total revenue
- Utilized multi-row cards to present total revenue, total costing and total profit for each product category
- Added a category filter to the page, enabling filtering the entire page by specific product categories

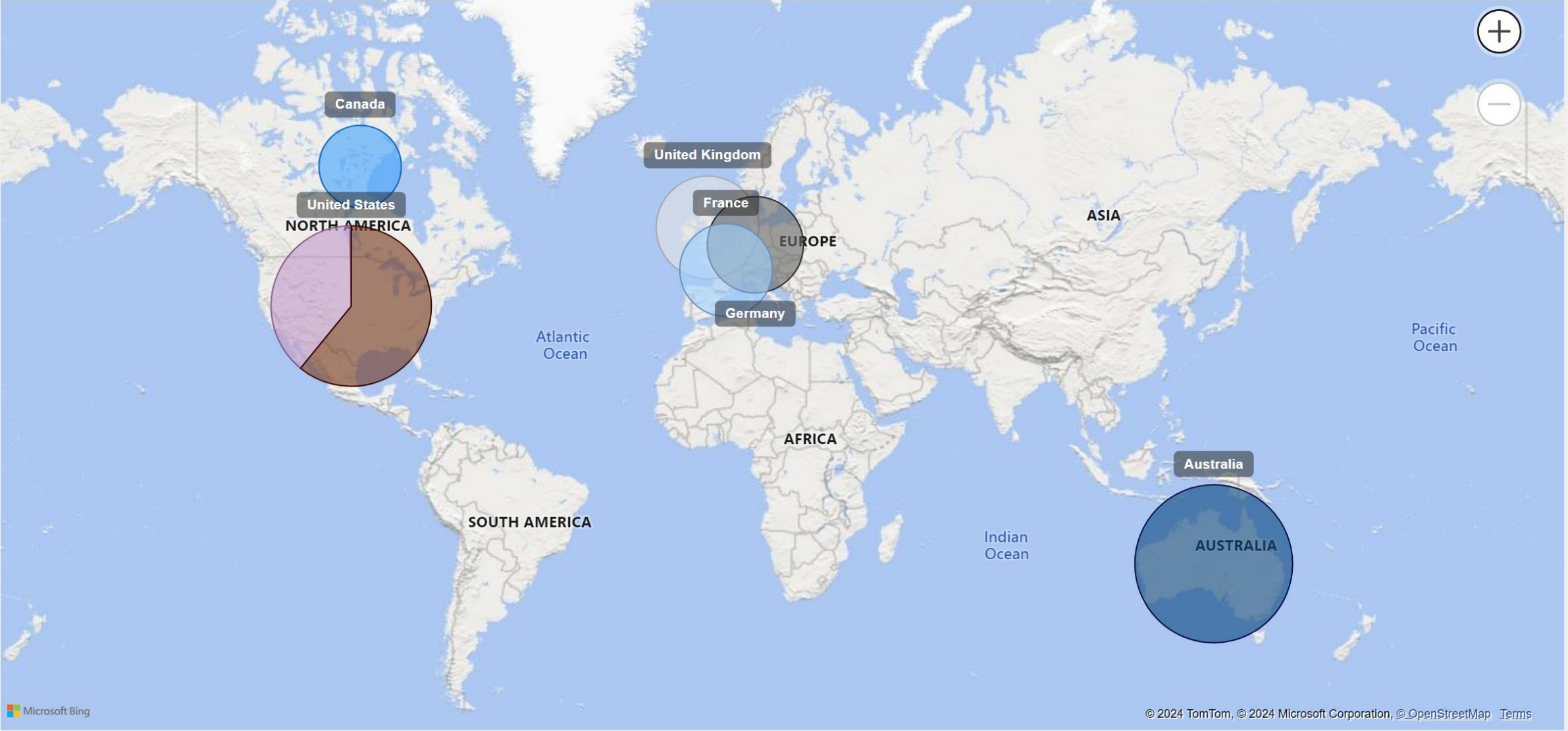
Europe

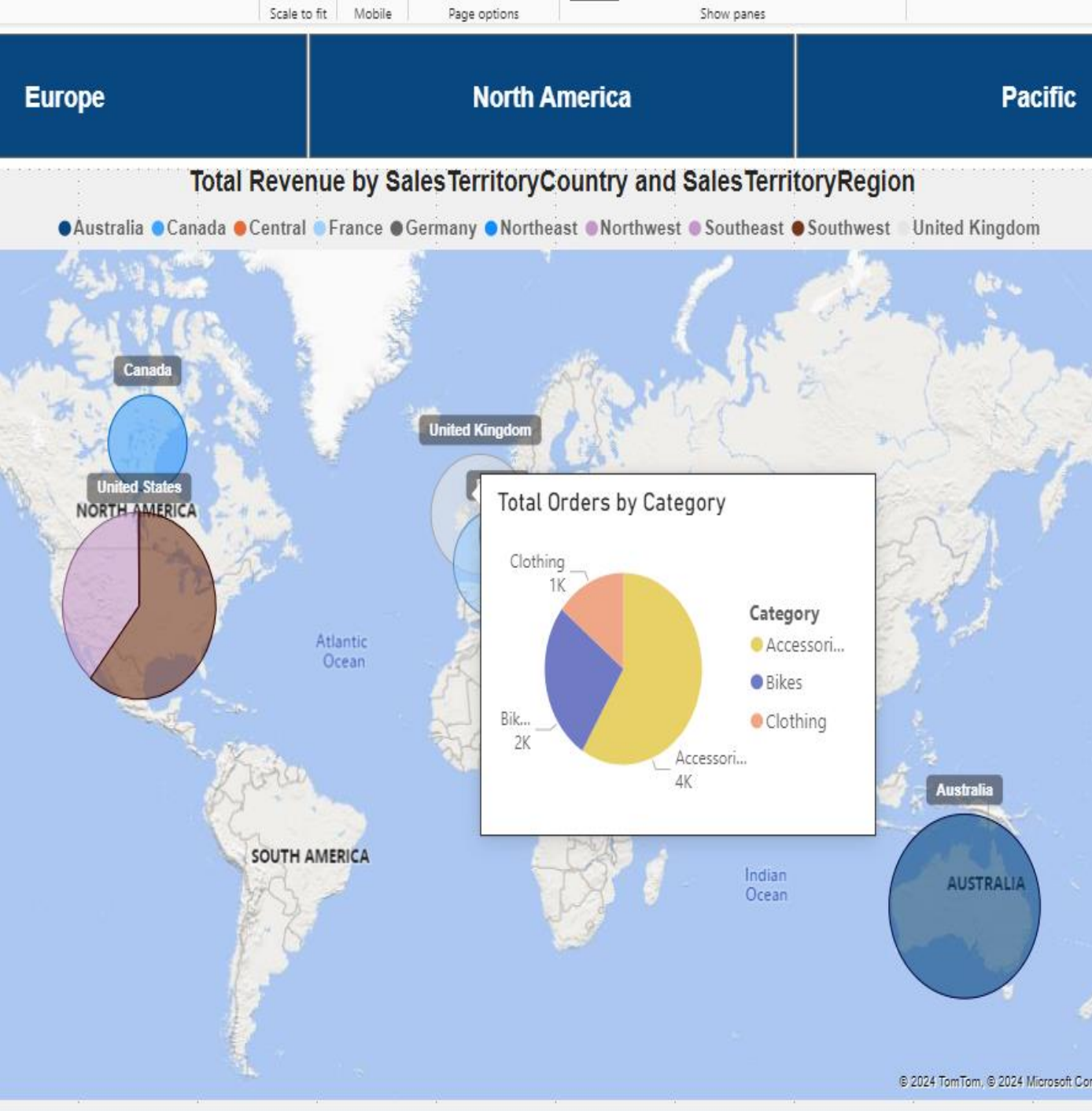
North America

Pacific

Total Revenue by SalesTerritoryCountry and SalesTerritoryRegion

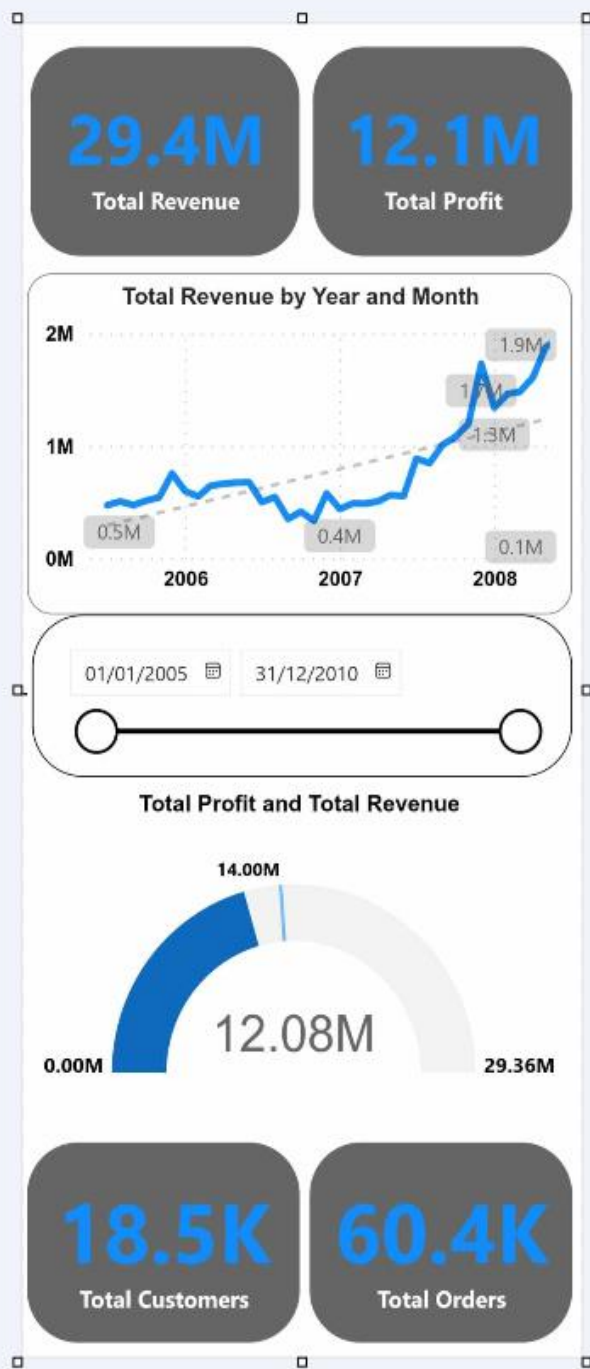
● Australia ● Canada ● Central ● France ● Germany ● Northeast ● Northwest ● Southeast ● Southwest ● United Kingdom





Geospatial Report Overview

- Implemented a map visualization of all territories in which the company operates
- Bubble sizes representing the total revenue
- Created a pie chart tooltip page and integrated it with the map visualization
- Displayed total orders by category for each territory within the tooltip
- Added a filter for the map territory groups, enabling to filter the map by territory group



Mobile Layout Overview

- Created a dashboard into a mobile layout
- Optimized visualization and components
- Used key graphs and visualization from the desktop report into the mobile dashboard

Thank you for watching