Sports Sales Analysis using Power Bl

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Introduction

Dick's Sporting Goods is a leading omnichannel sporting goods retailer committed to providing customers with the best gear and apparel for their sporting needs. The company emphasizes a customer-centric approach, with a wide product range including sports equipment, clothing, footwear, and accessories.

In today's competitive retail landscape, organizations like Dick's Sporting Goods must leverage data-driven insights to enhance decision-making, optimize operations, and drive sales performance. As a leading sporting goods retailer, understanding various dimensions of sales performance, customer behavior, product profitability, and market dynamics is crucial to maintaining a competitive edge.

Objective

The objective is to outline the analytical requirements for a comprehensive Power BI reporting solution that encapsulates sales performance, customer behavior, product profitability, and market dynamics dimensions, providing clear and actionable insights across multiple dashboards tailored for diverse stakeholders within the organization.

Problem Statement

KPI's: Provide us with the current revenue figures, including year-to-date (YTD) total revenue and year-over-year (YoY) total revenue, as well as the total quantity sold along with YTD and YoY totals for quantity sold. Additionally, we would like to know the total profit, including YTD and YoY profit figures, as well as the profit margin with corresponding YTD and YoY profit margin values. Moreover, please include the gross revenue figures, detailing both the YTD and YoY gross revenue, and finally, also find the total orders with the YTD and YoY totals for total orders.

Sales Analysis:

1.Total Revenue and Profit by Month Name

- What are the total revenue and profits for each month?
- How does the performance in each month compare to others?

2. Total Revenue and Profit by Quarter

- ☐ What are the total revenue and profits for each quarter?
- ☐ How do quarterly revenue and profits trend over the year?

3. Total Revenue and Profit by Day

- ☐ What are the total revenue and profits for each day?
- ☐ Are there specific days with unusually high or low sales/profit figures?

Customer Behavior Analysis:

 1. Table containing Marital Status, Total Orders, Revenue How many total orders and total revenue are associated with each marital status category
2. Total Revenue by Customer Country, State, and City
☐ What are the total revenue figures broken down by country, state, and city?
☐ Which geographic areas contribute the most to total revenue?
3. Total Revenue by Age Group and Gender
☐ What are the total revenue figures segmented by age group and gender?
☐ How does revenue performance vary across different age groups and between genders?
4. Total Revenue by Occupation and Gender
☐ What are the total revenue figures categorized by customer occupation and gender?
☐ Are there specific occupations that show higher revenue, and do they vary by gender?

Product Performance Analysis:

1. Profit by Category

- Which categories contribute the most to total profit?
- ☐ What percentage of the total profit does each product category contribute?

2. Top 10 Products by Profit

■ Which ten products generate the highest profit?

3. Top 10 Products by Revenue

☐ Which ten products have the highest revenue figures?

4. Bottom 10 Products by Revenue

■ Which ten products have the lowest revenue figures?

5. Top 10 Model Names by Revenue

☐ Which ten model names generated most revenue?

Geospatial Analysis:

I. R	Levenue by Quarter and Group What are the total revenue figures aggregated by each quarter and customer group? How do different groups perform on the quarters?
2. To	otal Orders by Country and Group
	■ What is the total number of orders placed by each country and customer group?■ Which countries and groups are the most active in terms of orders?
3. Y	TD Revenue by Country and Year
	☐ What are the year-to-date revenue total broken down by country?
	☐ How does year 2017 revenue compare with previous years for each country?
I. To	otal Quantity Sold by Country and ProductLine
	☐ What is the total quantity sold for each product line in each country?
	☐ Which product line has the highest quantity sold for each country?
5. To	op 5 Regions by Profit
	☐ Which five regions generate the most profit?

KPI's: Provide us with the current revenue figures, including year-to-date (YTD) total revenue and year-over-year (YoY) total revenue, as well as the total quantity sold along with YTD and YoY for total quantity sold. Additionally, we would like to know the total profit, including YTD and YoY profit figures, as well as the profit margin with corresponding YTD and YoY profit margin values. Moreover, please include the Average Order Value (AOV), detailing both the YTD and YoY Average Order Value, and finally, also find the total orders with the YTD and YoY for total orders.

Revenue \$35.61M YTD _{Yo}y \$6.3M -61.74%

Total Revenue: \$35.61M,

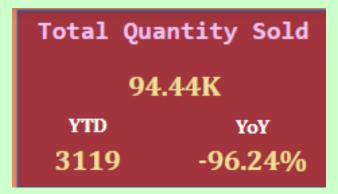
YTD for 2017: \$6.3M, YoY for 2017: -61.74%

Profit Margin
40.96

YTD YW
40.19 -2.86%

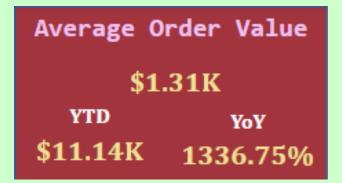
Profit Margin: 40.96,

YTD for 2017: 40.19, YoY for 2017: -2.86%



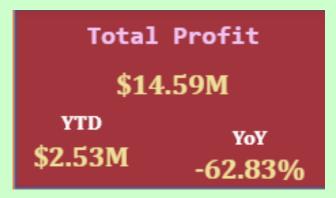
Total Quantity Sold: 94.44K,

YTD for 2017: 3119, YoY for 2017: -96.24%



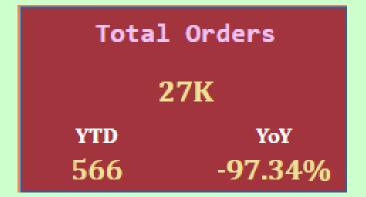
Average Order Value: \$1.31K,

YTD for 2017: \$11.14K, YoY for 2017: 1336.75%



Total Profit: \$14.59M.

YTD for 2017: \$2.53M, YoY for 2017: -62.83%



Total Orders: 27K,

YTD for 2017: 566, YoY for 2017: -97.34%

- The average revenue per unit sold can be calculated as: Average revenue per unit sold = DIVIDE([Revenue],[Total Quantity Sold]). This means that each unit sold generates about \$377.07 in revenue.
- The overall **profit margin** indicates that approximately **41%** of revenue converts to profit. Since this is high, it suggests that the business is operating efficiently and managing costs well relative to its sales volume.
- The **Average Order Value** shows that on average, each order placed is worth **\$1306.86**. When comparing AOV with the average revenue per unit, it suggests that customers are not only buying more units per order but also likely buying higher-value items or multiple products in a single order.

Year ▲	Average Order Value	Average revenue per unit sold
2014	\$3,205.84	\$2,025.22
2015	\$1,788.37	\$1,165.24
2016	\$775.05	\$198.76
2017	\$11,135.48	\$2,020.74
Total	\$1,306.86	\$377.07

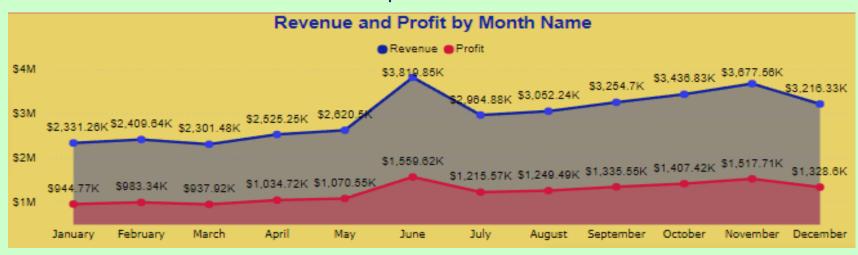
- ✓ In 2014, the Average Order Value (AOV) is significantly higher than the Average revenue per unit sold (ARUPS), indicating that customers are purchasing a larger quantity of items or more expensive items in single transactions.
- ✓ In 2015, AOV decreased compared to 2014 but is still higher than ARUPS, suggesting a similar trend of purchasing higher quantities or expensive items compared to individual item revenue.
- ✓ In 2016, both AOV and ARUPS decreased significantly. However, AOV is still higher than ARUPS, although the gap has narrowed, indicating that individual items are contributing less revenue overall.
- ✓ In 2017, a substantial increase in AOV compared to previous years, while ARUPS shows a modest increase. This signals either a substantial increase in the value of each order or a larger volume of items sold per order, leading to higher overall revenue despite the revenue per individual unit remaining comparatively lower.

- The average revenue per unit sold can be calculated as: Average quantity sold per order = DIVIDE([Total Quantity Sold],[Total Orders]). This indicates that, on average, each order contains 3.47 units. This could indicate customer behavior trends, such as preferences for bundled products or bulk purchases.
- The profit per order can be calculated as: Profit per Order = DIVIDE([Profit],[Total Orders]). This means each order, on average, contributes approximately \$535.26 to profit.

Sales Analysis:

1. Total Revenue and Profit by Month Name

☐ What are the total revenue and profits for each month?

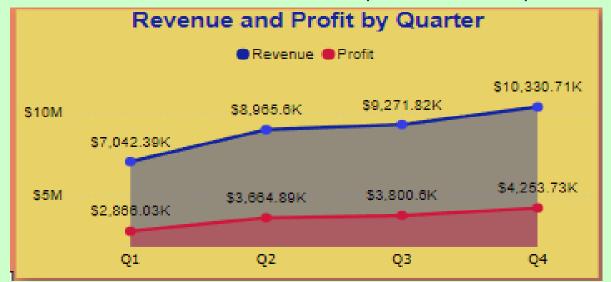


 We can see the total revenue and profits for each month in this graph

- ☐ How does the performance in each month compare to others?
- We can see from the graph that the overall June month generated the highest Revenue (\$3819.85K) and Profit (\$1559.62K) followed by November (Revenue: \$3677.56K, Profit: \$1517.71K). March generated the lowest Revenue (\$2301.48K) and Profit (\$937.92K).

2. Total Revenue and Profit by Quarter

☐ What are the total revenue and profits for each quarter?

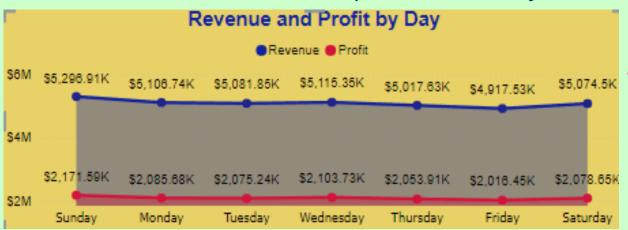


 We can see the total revenue and profits for each quarter in this graph.

- ☐ How do quarterly revenue and profits trend over the year?
- We can see from the graph that the overall Q4 Quarter generated the highest Revenue (\$10,330.71K) and Profit (\$4,253.73K) followed by Q3 Quarter (Revenue: \$9271.82K, Profit: \$3800.6K). Q1 Quarter generated the lowest Revenue (\$7042.39K) and Profit (\$2866.03K).

3. Total Revenue and Profit by Day

☐ What are the total revenue and profits for each day?



We can see the **total revenue** and **profits** for each **day** in this graph.

- ☐ Are there specific days with unusually high or low sales/profit figures?
- We can see from the graph that the overall Sunday generated highest Revenue (\$5296.91K) and Profit (\$2171.59K) followed by Wednesday (Revenue: \$5,115.35K, Profit: \$2,103.73K). Friday generated the lowest Revenue (\$4917.53K) and Profit (\$2016.45K).

Customer Behavior Analysis:

1. Table containing Marital Status, Total Orders, Revenue

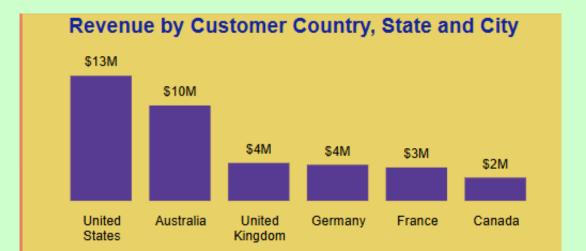
☐ How many total orders and total revenue are associated with each marital status category?

Martial Status	Total Orders	Revenue
Married	14899	\$18,626,836.72
Single	12350	\$16,983,682.11
Total	27249	\$35,610,518.83

 We can see the total orders are 27,249 and total revenue is \$35,610,518.83 associated with Married and Single marital status category.

2. Total Revenue by Customer Country, State, and City

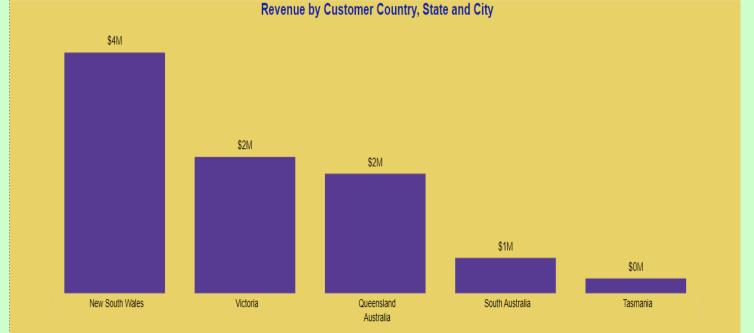
☐ What are the total revenue figures broken down by country, state, and city?



 We can see the total revenue by Customer Country in this graph.



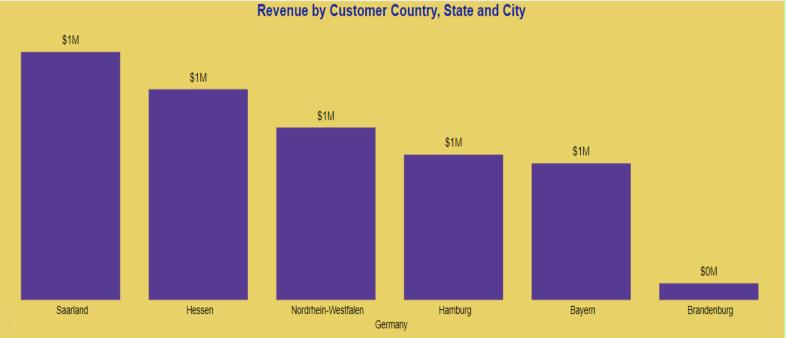
We can see the total revenue by Customer
 State in this graph for United States
 Customer Country.



We can see the total revenue by Customer
 State in this graph for Australia Customer
 Country.

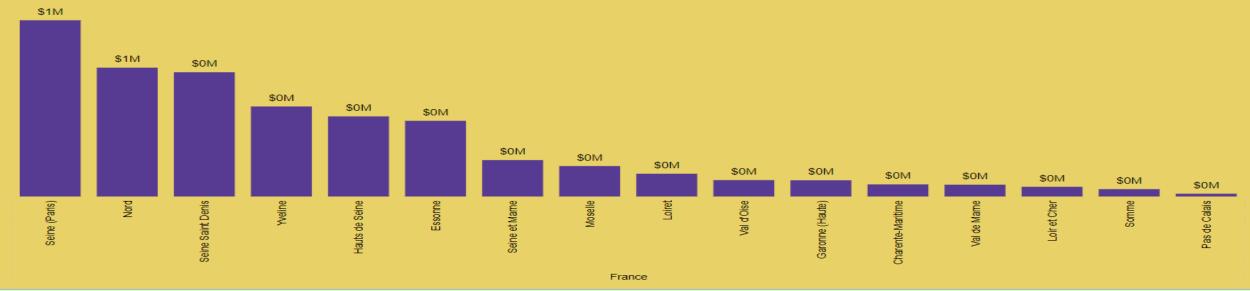


 We can see the **total revenue** by **Customer State** in this graph for **United Kingdom** Customer Country.

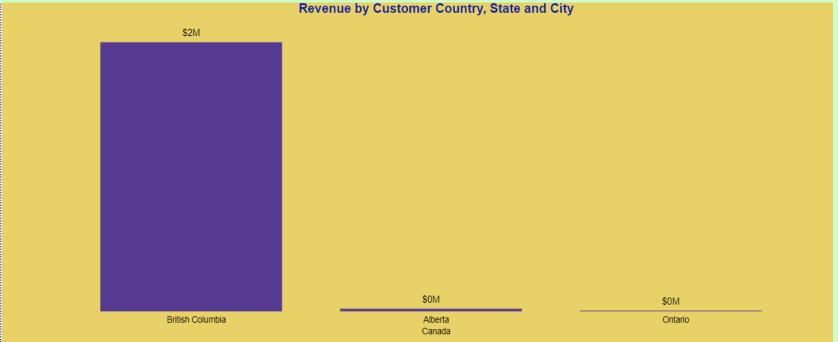


We can see the total revenue by
 Customer State in this graph for
 Germany Customer Country.

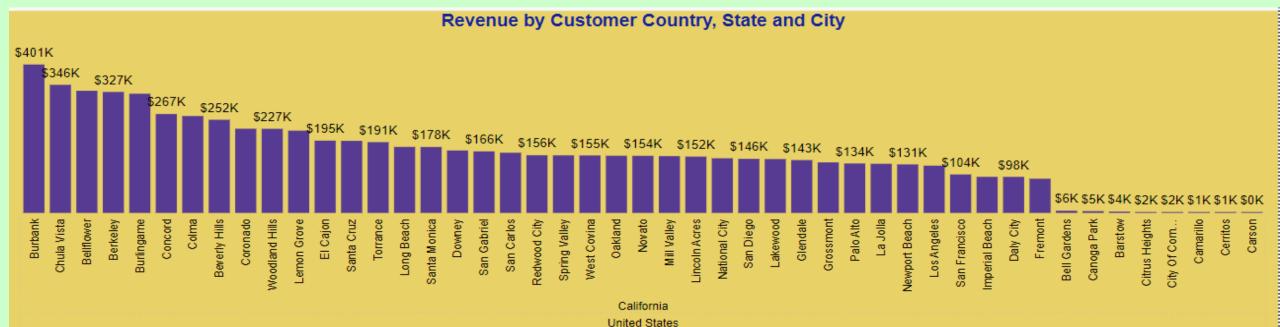
Revenue by Customer Country, State and City \$1M



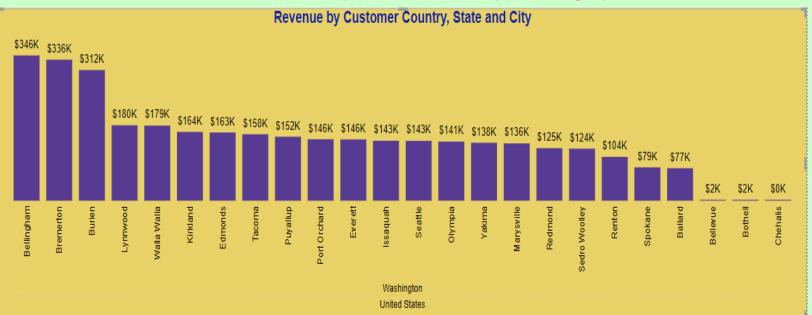
We can see the **total revenue** by **Customer State** in this graph for **France** Customer Country.



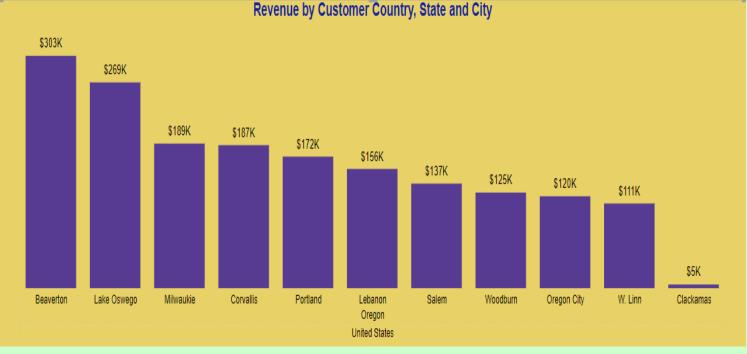
We can see the **total revenue** by **Customer State** in this graph for **Canada Customer Country.**



We can see the total revenue by Customer City in this graph for California State in United States Customer Country.



 We can see the total revenue by Customer City in this graph for Washington State in United States Customer Country.



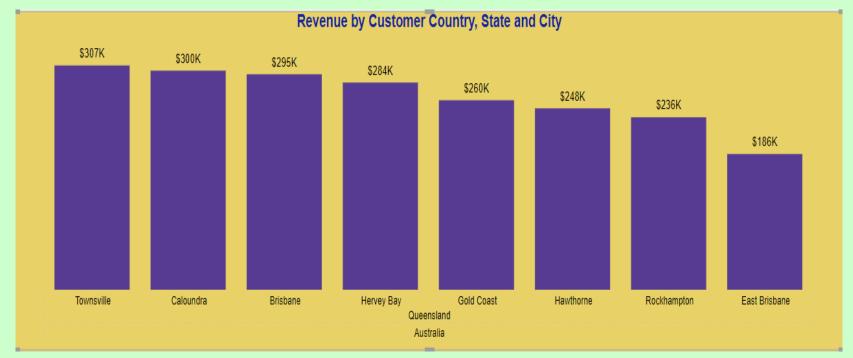
We can see the total revenue by Customer City in this graph for Oregon State in United States Customer Country.



 We can see the total revenue by Customer City in this graph for New South Wales State in Australia Customer Country.

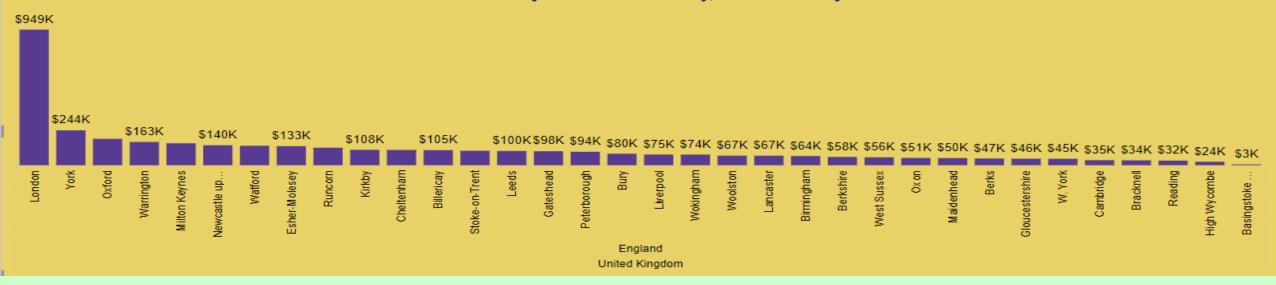


 We can see the total revenue by Customer City in this graph for New Victoria State in Australia Customer Country.

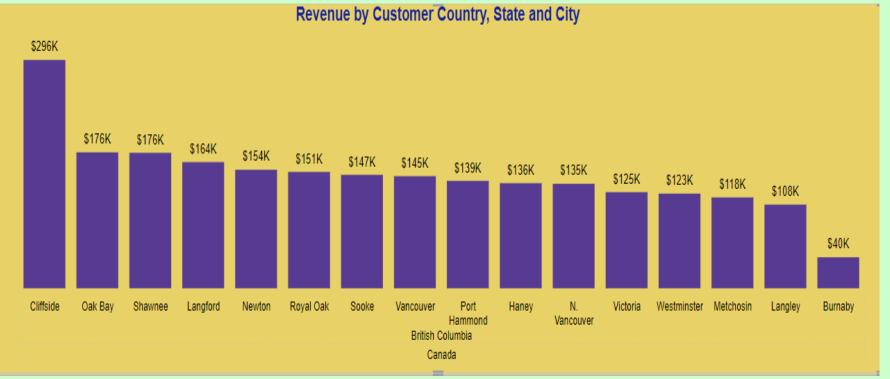


 We can see the total revenue by Customer City in this graph for New Queensland State in Australia Customer Country.

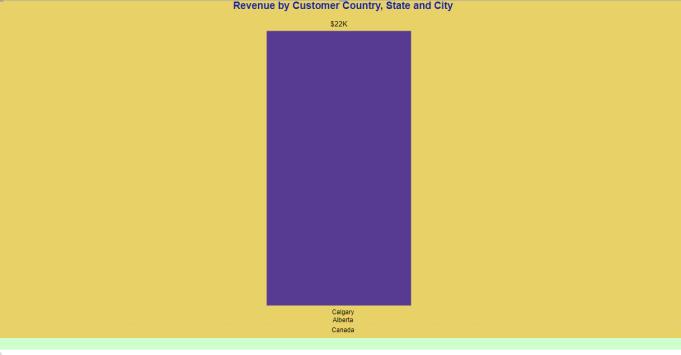
Revenue by Customer Country, State and City



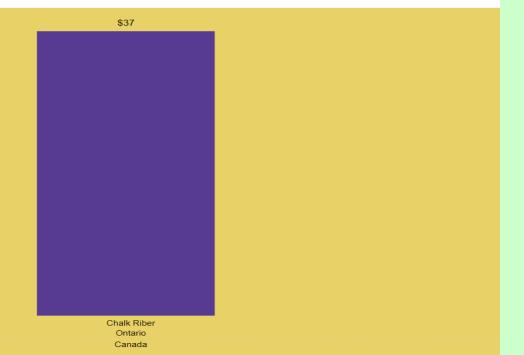
We can see the total revenue by Customer City in this graph for England State in United Kingdom Customer Country.



 We can see the total revenue by Customer City in this graph for British Columbia State in Canada Customer Country.



REVENUE BY CUSTOMER COUNTRY, STATE AND CITY



We can see the total revenue by Customer
 City in this graph for Alberta State in Canada
 Customer Country.

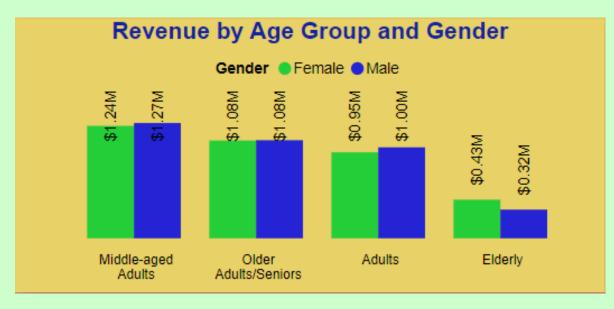
We can see the total revenue by Customer
 City in this graph for Ontario State in Canada
 Customer Country.

- ☐ Which geographic areas contribute the most to total revenue?
- United States Customer Country generated the highest revenue (\$13M) followed by Australia (Revenue: \$10M) and United Kingdom (Revenue: 4M).
- California Customer State generated the highest revenue (\$7M) followed by Washington (Revenue: \$3M) and Oregon (Revenue: \$2M) in United States Customer Country.
- Burbank (Revenue: \$401K), Chula Vista (Revenue: \$346K), Bellflower (Revenue: \$330K) Customer Cities generated the highest revenue for California States in United States Country.
- o **Bellingham** (**Revenue: \$346K**), **Bremerton** (**Revenue: \$336K**), **Burien** (**Revenue: \$312K**) Customer Cities generated the **highest revenue** for **Washington** State in **United States** Country.
- o **Beaverton (Revenue: \$303K), Lake Oswego (Revenue: \$269K)**, **Milwaukie (Revenue: \$189K)** Customer Cities generated the **highest revenue** for **Oregon** State in **United States** Country.
- o New South Wales Customer State generated the highest revenue (\$4M) followed by Victoria (Revenue: \$2M) and Queensland (Revenue: \$2M) in Australia Country.
- Wollongong (Revenue: \$339K), Goulburn(Revenue: \$326K), Sydney (Revenue: \$310K) Customer Cities generated the highest revenue for New South Wales State in Australia Country.
- Warrnambool (Revenue: \$342K), Bendigo (Revenue: \$325K), Melton (Revenue: \$306K) Customer Cities generated the highest revenue for Victoria State in Australia Country.

- Townsville (Revenue: \$307K), Caloundra (Revenue: \$300K), Brisbane (Revenue: \$295K) Customer Cities generated the highest revenue for Queensland State in Australia Country.
- England Customer State generated the highest revenue (\$4M) in United Kingdom Country.
- London (Revenue: \$949K) Customer City generated the highest revenue for England State in United Kingdom Country.

3. Total Revenue by Age Group and Gender

☐ What are the total revenue figures segmented by age group and gender?



 We can see the total revenue by Age Group and Gender in this graph

- ☐ How does revenue performance vary across different age groups and between genders?
- We can see from the graph that Middle-aged Adults generated the highest Revenue (Revenue by Female: \$1.24M, Revenue by Male: \$1.27M, Total Revenue: 2.51M) followed by Older Adults-Seniors (Revenue by Female: \$1.08M, Revenue by Male: \$1.08M, Total Revenue: 2.16M) and Adults (Revenue by Female: \$0.95M, Revenue by Male: \$1.00M, Total Revenue: 1.95M). Elderly generated the lowest Revenue (Revenue by Female: \$0.43M, Revenue by Female: \$0.32M, Total Revenue: 0.74M).
- The total revenue generated by females is \$3.69 million, while males generated \$3.67 million.
 This shows a slight edge in total revenue for females across all age groups.
- Middle-aged Adults and Adults age group generated the highest total revenue, with males leading slightly over females.
- Revenue is equal for both genders, indicating a balanced contributor status in Older Adults-Seniors age group.
- Elderly age group generates the lowest revenue, with females contributing more than males, likely indicating factors such as retirement status or reduced spending power.

Gender	Revenue
Female	\$3.69M
Male	\$3.67M
Total	\$7.36M

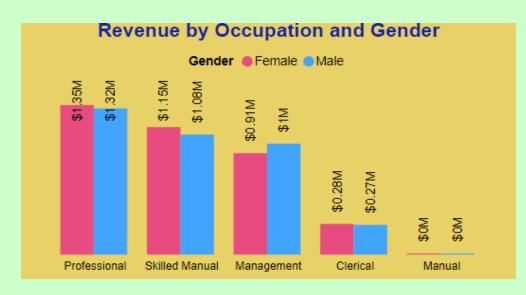
Overall, while females slightly lead in total revenue generation, males show a stronger performance in middle-aged and adult groups. As age increases, revenue tends to decline, especially noticeable in the elderly category, where services or products are less frequently purchased.

- o Revenue is equal for both genders, indicating a balanced contributor status in **Older Adults-Seniors** age group.
- Elderly age group generates the lowest revenue, with females contributing more than males, likely indicating factors such as retirement status or reduced spending power.

Overall, while females slightly lead in total revenue generation, males show a stronger performance in middle-aged and adult groups. As age increases, revenue tends to decline, especially noticeable in the elderly category, where services or products are less frequently purchased.

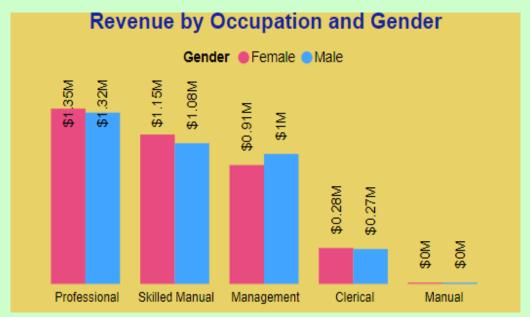
4. Total Revenue by Occupation and Gender

☐ What are the total revenue figures categorized by customer occupation and gender?



We can see the total revenue by Occupation and Gender in this graph.

☐ Are there specific occupations that show higher revenue, and do they vary by gender?



We can see from the graph that the Professional Occupation generated the highest Revenue (Revenue by Female: \$1.35M, Revenue by Male: \$1.32M, Total Revenue: 2.67M) followed by Skilled Manual (Revenue by Female: \$1.15M, Revenue by Male: \$1.08M, Total Revenue: \$2.23M), Management (Revenue by Female: \$0.91M, Revenue by Male: \$1M, Total Revenue: \$1.91M) and Clerical (Revenue by Female: \$0.28M, Revenue by Male: \$0.27M, Total Revenue: \$0.54M). Manual Occupation generated the lowest Revenue (Revenue by Female: \$0M, Revenue by Male: \$0M, Total Revenue: \$0.01M).

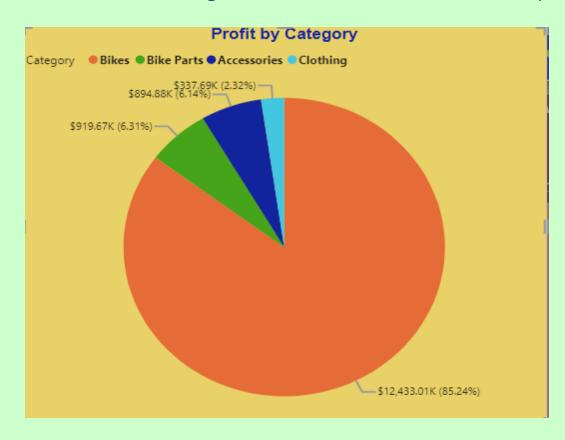
Gender Revenue
Female \$3.69M
Male \$3.67M
Total \$7.36M

- The **total revenue** generated by **females** is **\$3.69 million**, while **males** generated **\$3.67 million**. This shows a slight edge in total revenue for **females** across **all age groups**.
- Professional, Skilled Manual and Management generated the highest total revenue, with females leading slightly over males.

Product Performance Analysis:

1. Profit by Category

☐ Which categories contribute the most to total profit?



 We can see the Bikes Category contributed to the highest profit (\$12433.01K) followed by Bike Parts (Profit: \$919.67K), Accessories (Profit: \$894.88K) and Clothing (Profit: \$337.69K)

- ☐ What percentage of the total profit does each product category contribute?
- We can see from the graph that the Bikes Category contributed to the highest percentage of profit (85.24%) followed by Bike Parts (6.31%), Accessories (6.14%) and Clothing (2.32%)

2. Top 10 Products by Profit

☐ Which ten products generate the highest profit?



- We can see that below Products generated highest profit:
- Mountain-200 Black, 46 (Profit: \$635.5K)
- Mountain-200 Black, 42 (**Profit: \$629.23K**)
- Mountain-200 Silver, 38 (Profit: \$616.78K)
- Road-150, Red, 62 (Profit: \$604.91K)
- Mountain-200 Silver, 46 (Profit: \$600.68K)
- Mountain-200 Black, 38 (Profit: \$539.66K)
- Road-150 Red, 48 (Profit: \$588.92K)
- Mountain-200 Silver, 42 (Profit: \$578.02K)
- Road-150 Red, 52 (**Profit: \$523.57K**)
- Road-150 Red, 44 (**Profit: \$519.51K**)

3. Top 10 Products by Revenue

☐ Which ten products have the highest revenue figures?



- We can see that below Products generated highest revenue:
- Road-150 Red, 62 (Revenue: \$1531.63K)
- Road-150 Red, 48 (Revenue: \$1492.16K)
- Mountain-200 Black, 46 (Revenue: \$1395.26K)
- Mountain-200 Black, 42 (Revenue: \$1381.35K)
- Mountain-200 Silver, 38 (Revenue: \$1354.48K)
- Road-150 Red, 52 (Revenue: \$1326.39K)
- Mountain-200 Silver, 46 (Revenue: \$1318.61K)
- Road-150 Red, 44 (Revenue: \$1312.38K)
- Mountain-200 Black, 38 (Revenue: \$1302.54K)
- Mountain-200 Silver, 42 (Revenue: \$1268.87K)

4. Bottom 10 Products by Revenue

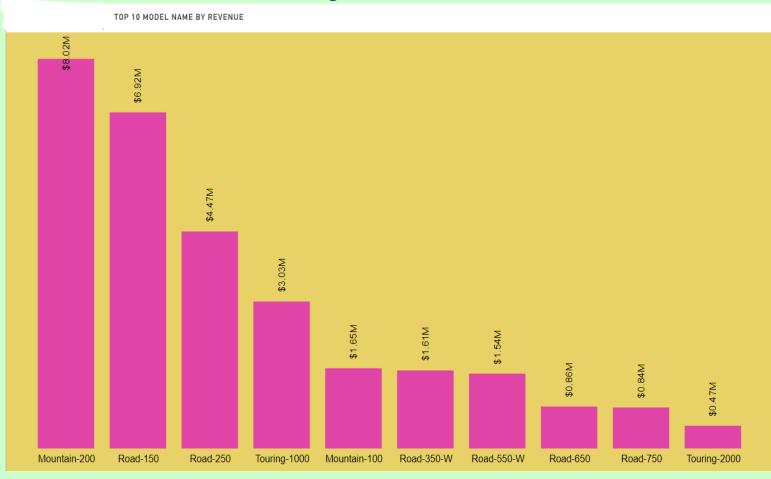
☐ Which ten products have the lowest revenue figures?



- We can see that below Products generated highest revenue:
- Racing Socks, M (Revenue: \$2.53K)
- Front Derailleur Linkage (Revenue: \$4.07K)
- Adjustable Race (Revenue: \$4.1K)
- Chainring Nut (Revenue: \$4.28K)
- Tension Pulley (Revenue: \$4.77K)
- Internal Lock Washer 8 (Revenue: \$5.68K)
- Hex Nut 8 (Revenue: \$6.75K)
- Hex Nut 6 (Revenue: \$6.95K)
- Hex Nut 19 (Revenue: \$6.98K)
- Cup-Shaped Race (Revenue: \$7.16K)

5. Top 10 Model Names by Revenue

☐ Which ten model names generated most revenue?

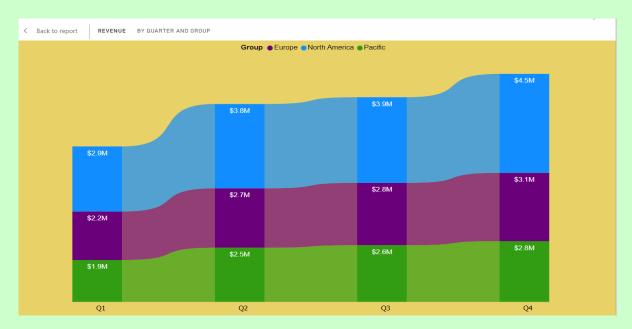


- We can see that below Models generated highest revenue:
- Mountain-200 (Revenue: \$8.02M)
- Road-150 (Revenue: \$6.92M)
- Road-250 (Revenue: \$4.47M)
- Touring-1000 (Revenue: \$3.03M)
- Mountain-100 (Revenue: \$1.65M)
- Road-350-W (Revenue: \$1.61M)
- Road-550-W (Revenue: \$1.54M)
- Road-650 (Revenue: \$0.86M)
- Road-750 (Revenue: \$0.84M)
- Touring-2000 (Revenue: \$0.47M)

Geospatial Analysis:

1. Revenue by Quarter and Group

☐ What are the total revenue figures aggregated by each quarter and customer group?

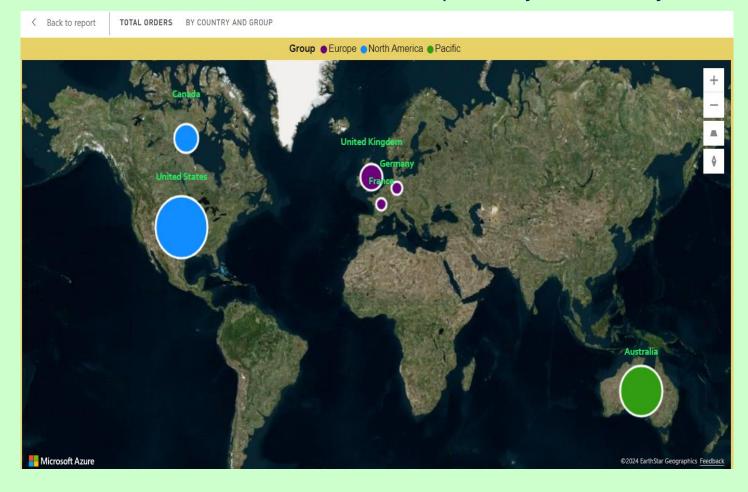


 We can see the total Revenue based on Quarter and Group in the graph.

- ☐ How do different groups perform on the quarters?
- We can see from the graph that North America Group generated the highest Revenue (\$4.5M) followed by Europe (\$3.1M) and Pacific (\$2.8M) for Q4 quarter. After Q4 quarter, Q3 quarter generated the highest revenue followed by Q2. Q1 quarter generated the lowest Revenue.
- Overall North America Group generated the highest Revenue followed by Europe and Pacific for Q4, Q3, Q2 and Q1 quarters.

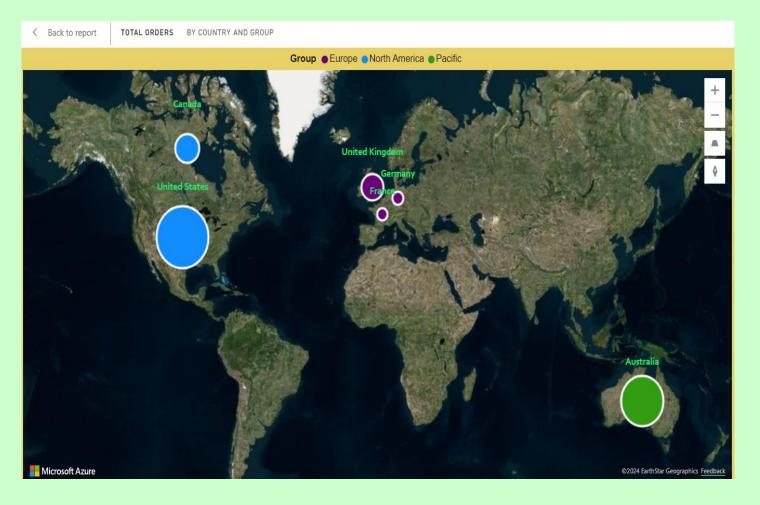
2. Total Orders by Country and Group

☐ What is the total number of orders placed by each country and customer group?



- We can see from the graph below:
- Country: Canada, Group: North America, Total Orders: 3242
- 2) Country: United States, Group: North America, Total Orders: 9503
- 3) Country: **United Kingdom**, Group: **Europe**, Total Orders: **3021**
- 4) Country: **Germany**, Group: **Europe**, Total Orders: **2484**
- 5) Country: **France**, Group: **Europe**, Total Orders: **2483**
- 6) Country: **Australia**, Group: **Pacific**, Total Orders: **6615**

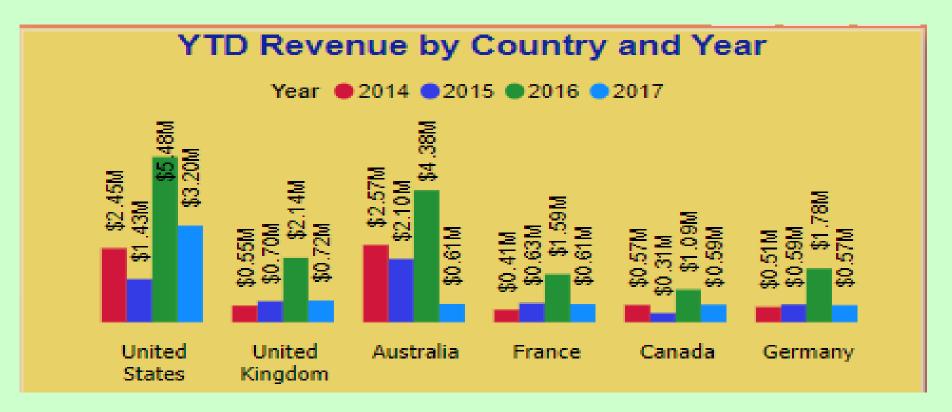
☐ Which countries and groups are the most active in terms of orders?



- We can see from the graph that below Countries and groups are active in terms of orders:
- Country: United States, Group: North America, Total Orders: 9503
- Country: Australia, Group: Pacific, Total Orders:
 6615
- 3) Country: **Canada**, Group: **North America**, Total Orders: **3242**
- 4) Country: **United Kingdom**, Group: **Europe**, Total Orders: **3021**

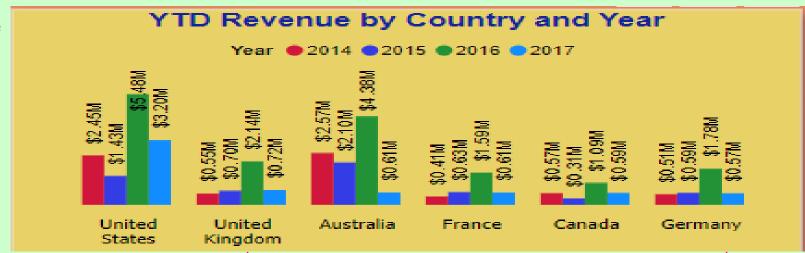
3. YTD Revenue by Country and Year

☐ What are the year-to-date revenue total broken down by country?



- United States (YTD Revenue: \$5.48M) Country had the highest YTD Revenue followed by Australia (YTD Revenue: \$4.38M) for
 2016
- United States (YTD Revenue: \$3.20M) Country had the highest YTD Revenue followed by United Kingdom (YTD Revenue: \$0.72M) for 2017
- Australia (YTD Revenue: \$2.57M) Country had the highest YTD Revenue followed by United States (YTD Revenue: \$2.45M) for
 2014
- Australia (YTD Revenue: \$2.10M) Country had the highest YTD Revenue followed by United States (YTD Revenue: \$1.43M) for
 2015

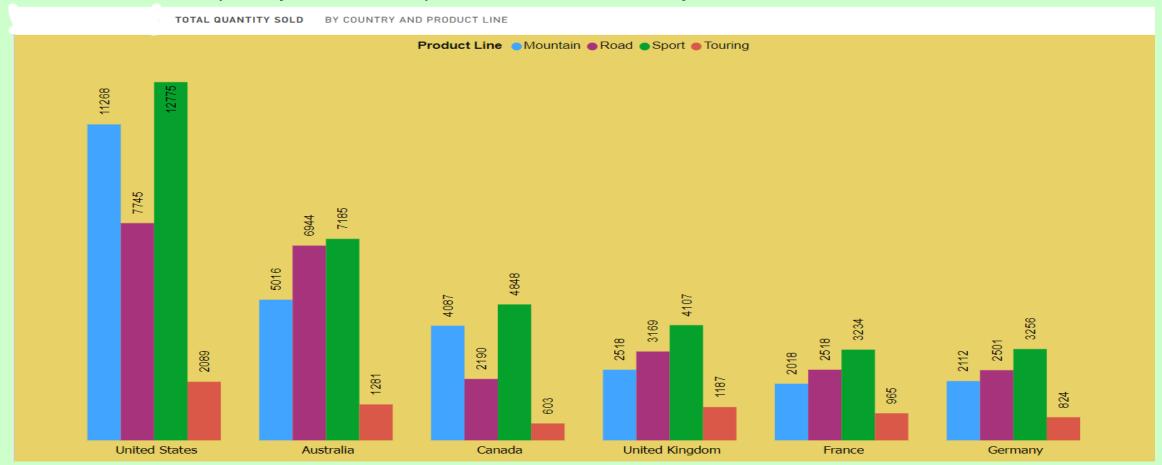
☐ How does year 2017 revenue compare with previous years for each country?



- For United States Country, 2017 year generated lower YTD Revenue (\$3.20M) when compared to 2016 YTD Revenue (\$5.48M) and 2014 YTD Revenue (\$2.45M). 2017 year generated high YTD Revenue (\$3.20M) when compared to 2015 YTD Revenue (\$1.43M)
- For **United Kingdom** Country, **2017** year generated lower **YTD Revenue** (\$0.72M) when compared to **2016 YTD Revenue** (\$2.14M). **2017** year generated high **YTD Revenue** (\$0.72M) when compared to **2015 YTD Revenue** (\$0.70M) and **2014 YTD Revenue** (\$0.55M).
- For Australia Country, 2017 year generated lower YTD Revenue (\$0.72M) when compared to 2016 YTD Revenue (\$4.38M), 2014 YTD Revenue (\$2.57M) and 2015 YTD Revenue (\$2.10M).
- For France Country, 2017 year generated lower YTD Revenue (\$0.61M) when compared to 2016 YTD Revenue (\$1.59M) and 2015 YTD Revenue (\$0.63M). 2017 year generated high YTD Revenue (\$0.61M) when compared to 2014 YTD Revenue (\$0.41M).
- For Canada Country, 2017 year generated lower YTD Revenue (\$0.59M) when compared to 2016 YTD Revenue (\$1.09M). 2017 year generated high YTD Revenue (\$0.59M) when compared to 2014 YTD Revenue (\$0.57M) and 2015 YTD Revenue (\$0.31M).
- For Germany Country, 2017 year generated lower YTD Revenue (\$0.57M) when compared to 2016 YTD Revenue (\$1.78M),
 2015 YTD Revenue (\$0.59M). 2017 year generated high YTD Revenue (\$0.57M) when compared to 2014 YTD Revenue (\$0.51M).

4. Total Quantity Sold by Country and ProductLine

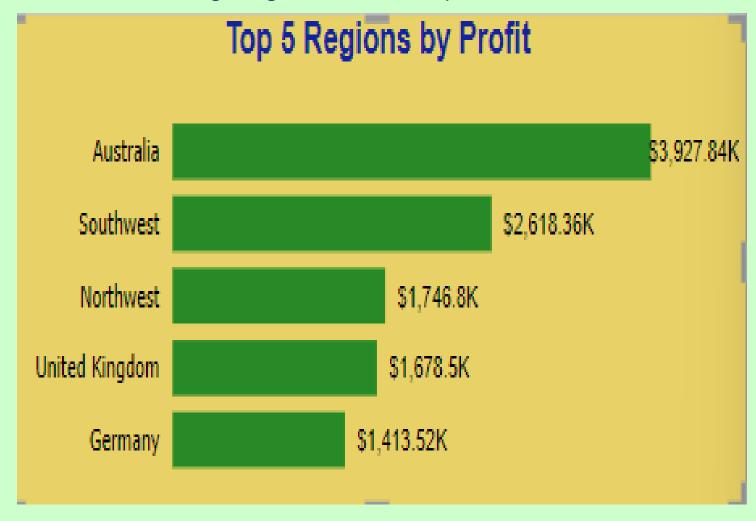
☐ What is the total quantity sold for each product line in each country?



- We can see the total quantity sold for each product line and Country from the graph.
 - ☐ Which product line has the highest quantity sold for each country?
- Sport Product Line was the highest quantity sold in United States, Australia, Canada, United Kingdom, Germany and France.

5. Top 5 Regions by Profit

☐ Which five regions generate the most profit?



Australia (\$3927.84K), Southwest (\$2618.36K),
 Northwest (\$1746.8K), United Kingdom (\$1678.5K) and Germany (\$1413.52K) regions generated the highest profit.

Thank You