

# ADVENTURE WORKS SALES ANALYSIS - OVERALL OVERVIEW

GIRIRAJU B 8



Active Customers

17,416

Total Orders

25,164

Total Order Quantity

84,174

Total Product

293

Total Product Category

4

Total Product Subcategory

37

Monthly Revenue

\$1.83M ✓

Previous Month: \$1.77M  
(+\$0.06M +3.31%)

Total Cost

\$14.46M

Total Revenue

\$24.91M

Gross Profit

\$10.46M

Total Returns

1,828

Return Rate %

2.17%

Net Revenue

\$9.69M

Monthly Orders

2,146 !

Previous Month : 2165  
(-19.00 -0.88%)

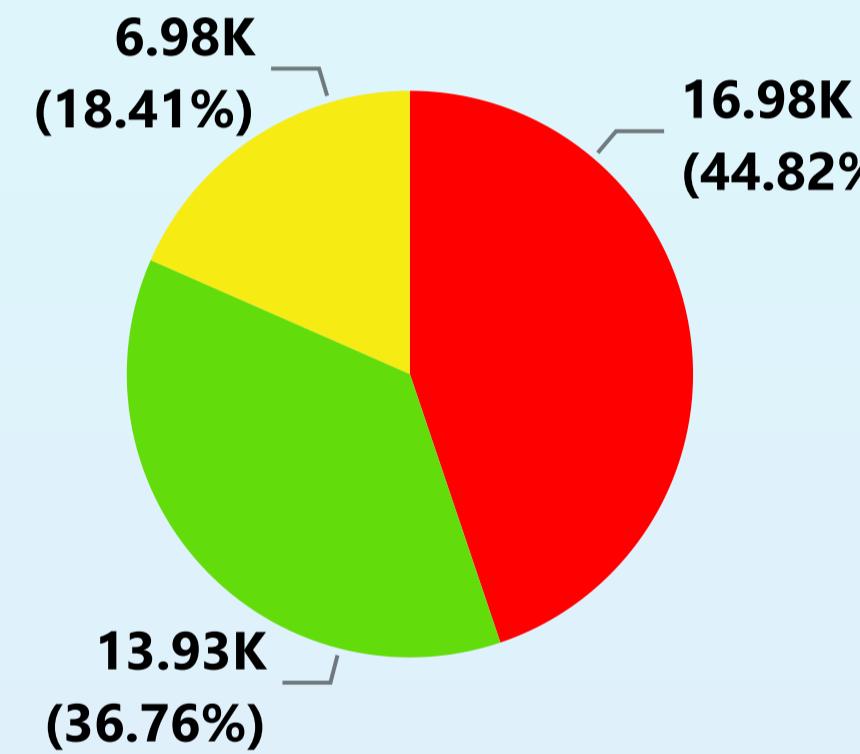
Monthly Returns

167 ✓

Previous Month : 169  
(+2.00 +1.18%)

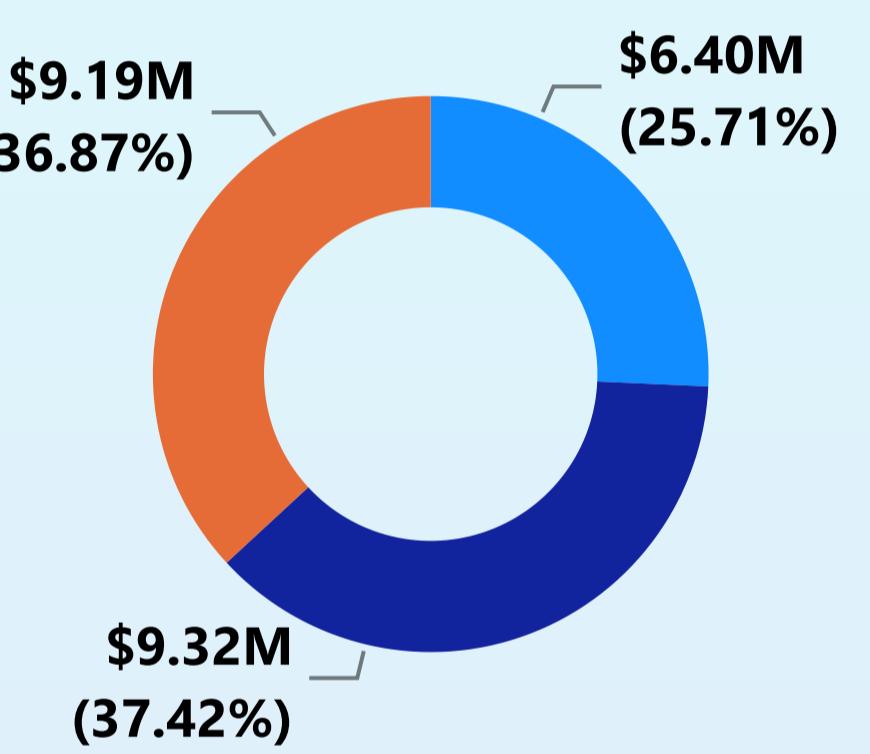
## Total\_Orders by Category Name

Category... ● Accessories ● Bikes ● Clothing

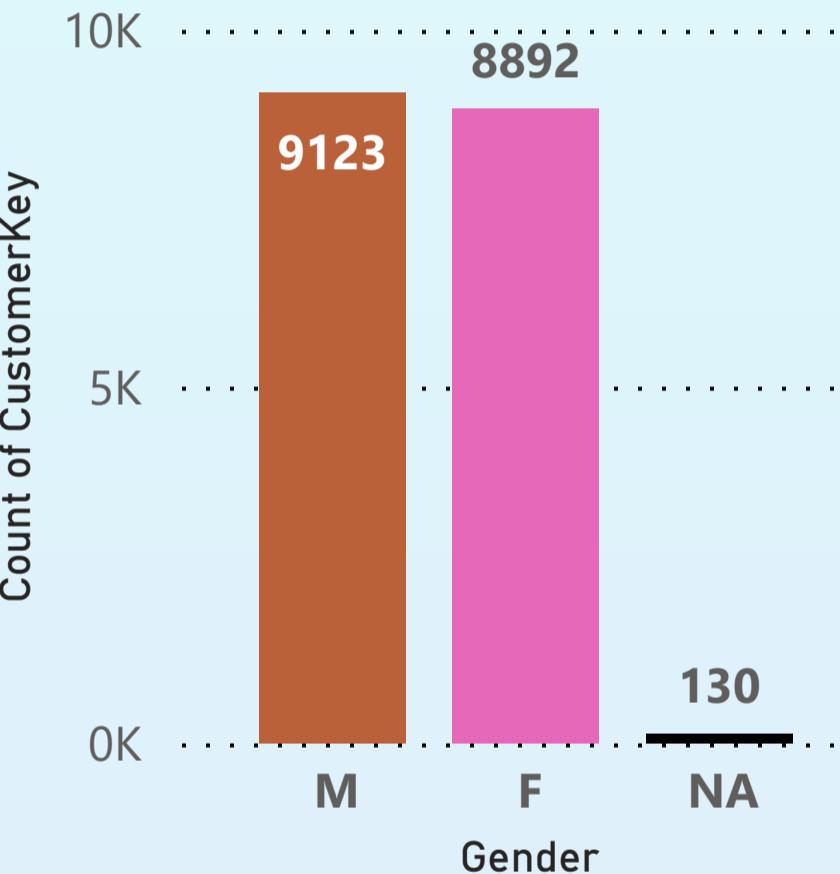


## Total Revenue by Year - Quarter

Order... ● 2020 ● 2021 ● 2022

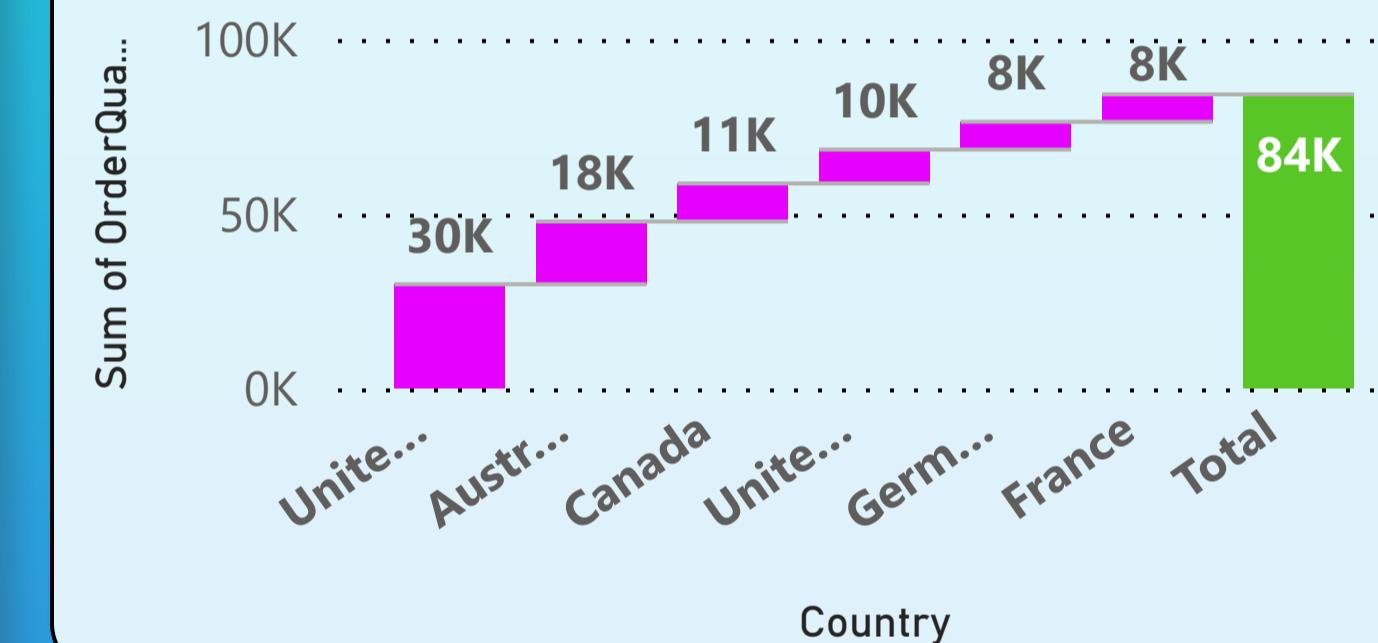


## Customers by Gender



## Sales by Country

● Increase ● Decrease ● Total



## Revenue Trend by Year and Month



## Total Revenue & Avg Profit% by Category

● Total Revenue ● Avg\_Profit\_Percent



## Most Ordered Product Subcategory

Tires and Tubes

## Least Ordered Product Subcategory

Bike Stands

More Details

## Top10 Product Names by High Revenue

ProductName	Total Orders	Total Revenue
Mountain-200 Black, 46	606	\$1,241,753.51
Mountain-200 Black, 42	602	\$1,233,557.12
Mountain-200 Silver, 38	586	\$1,213,851.89
Mountain-200 Silver, 46	571	\$1,182,780.59
Mountain-200 Black, 38	569	\$1,165,936.88
Mountain-200 Silver, 42	547	\$1,133,066.52
Road-250 Black, 52	316	\$689,373.79
Road-250 Red, 58	303	\$661,013.42
Road-250 Black, 48	294	\$641,379.38
<b>Total</b>	<b>4,573</b>	<b>\$9,803,223.39</b>



# ADVENTURE WORKS SALES ANALYSIS - CUSTOMER & PRODUCT ANALYSIS

GIRIRAJU B 8



Total Customers

18,145

Active Customers

17,416

Inactive Customers

729

Top 3 Customers

MR. MAURICE SHAN

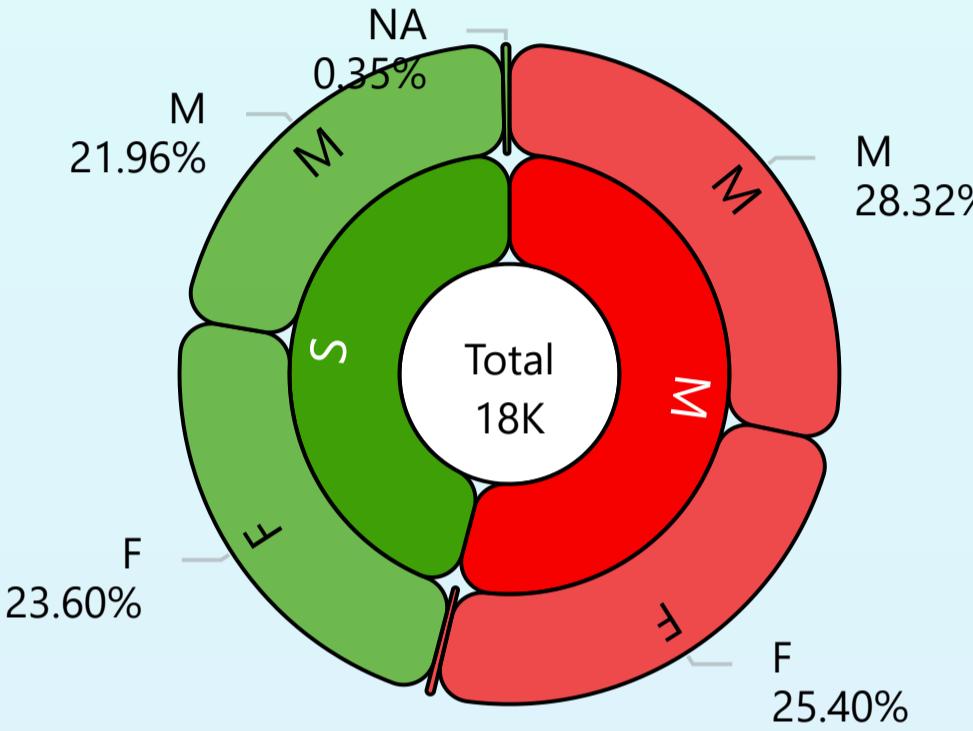
MRS. JANET MUNOZ

MRS. LISA CAI

≡  
Home  
Filter

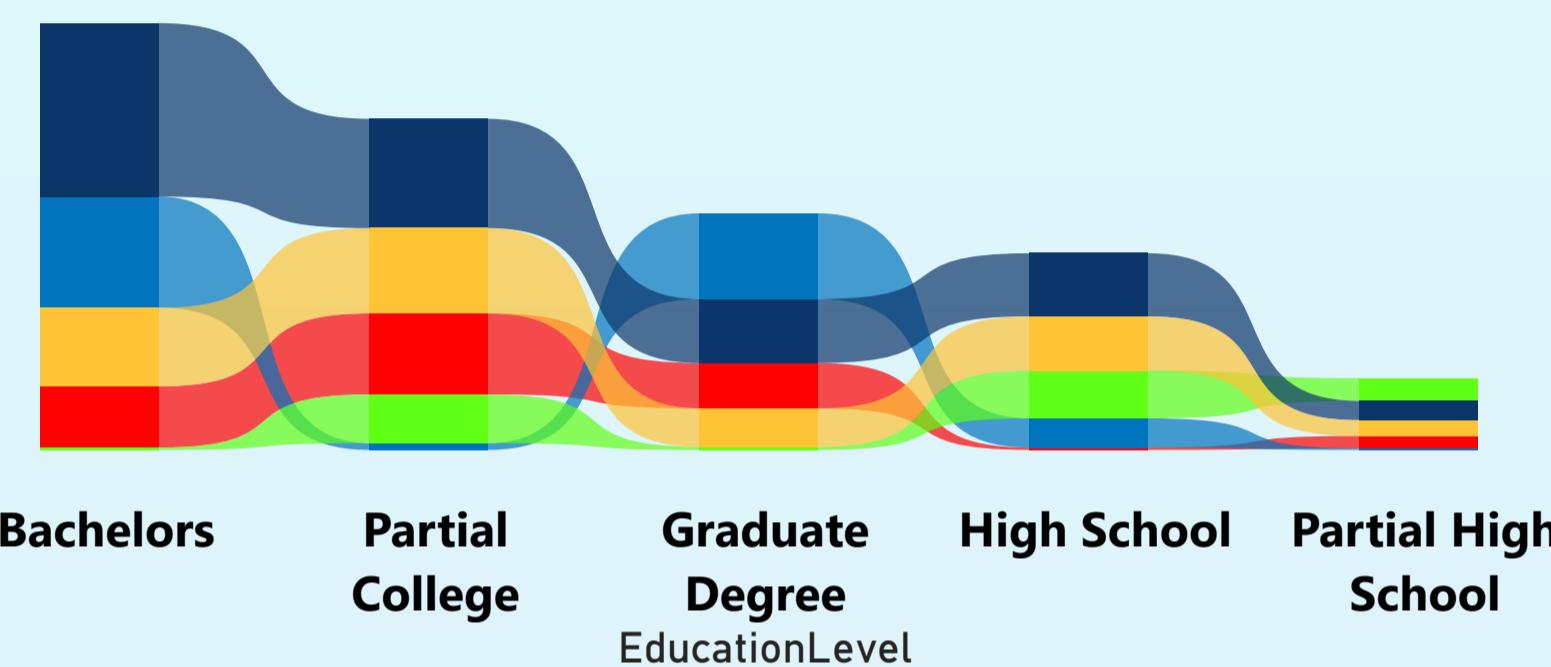
i  
Insights

## Distribution of Customer Gender and Marital Status



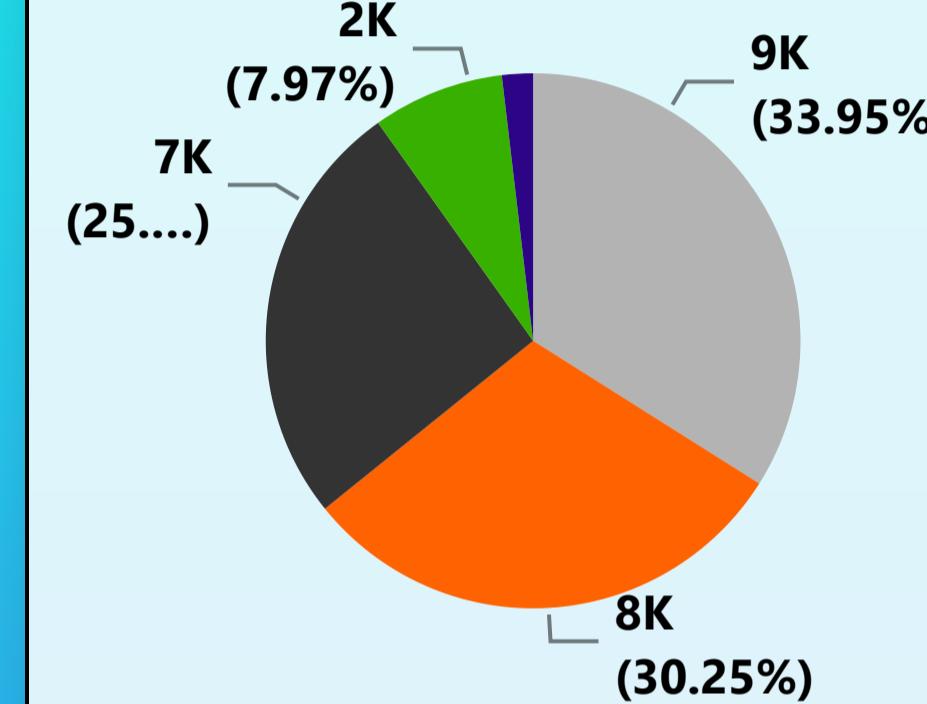
## Customer Spending by Education Level & Occupation

Occupation ● Clerical ● Management ● Manual ● Professional ● Skilled Manual



## Total Orders by Income Level

Income Level ● Low ● Average ● Very Low

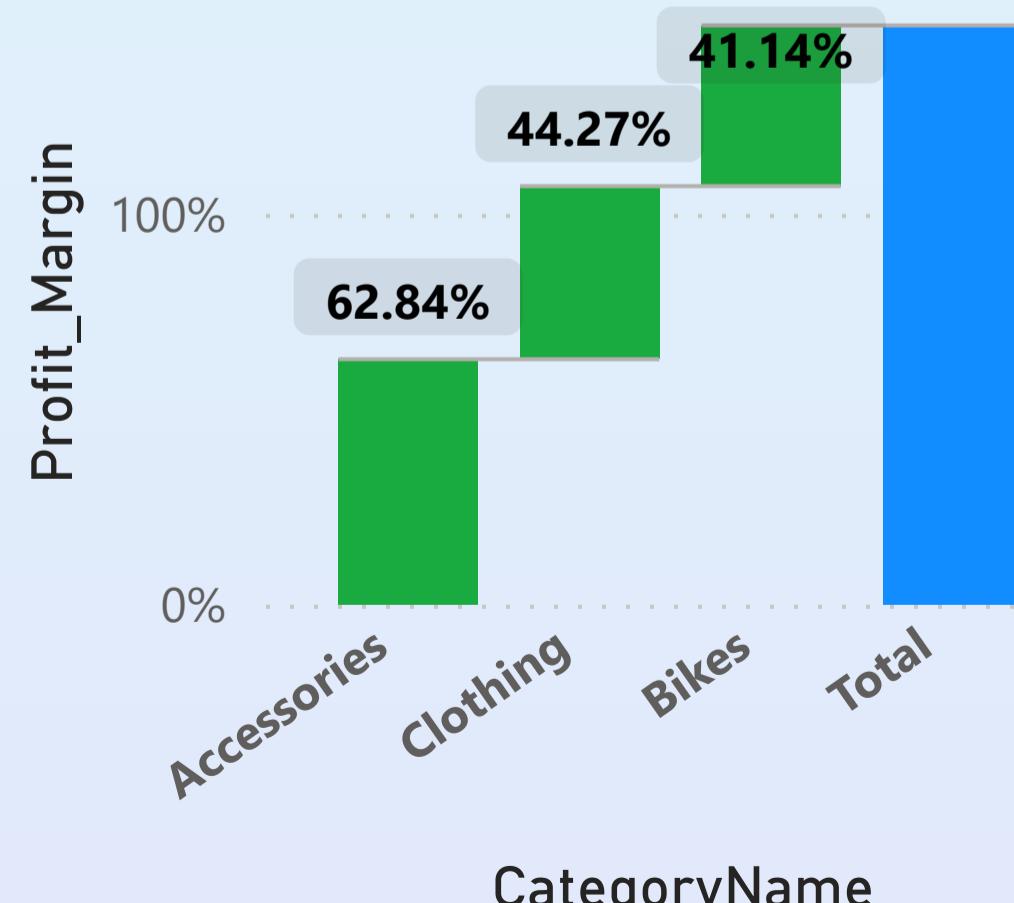


## Inactive\_Customers

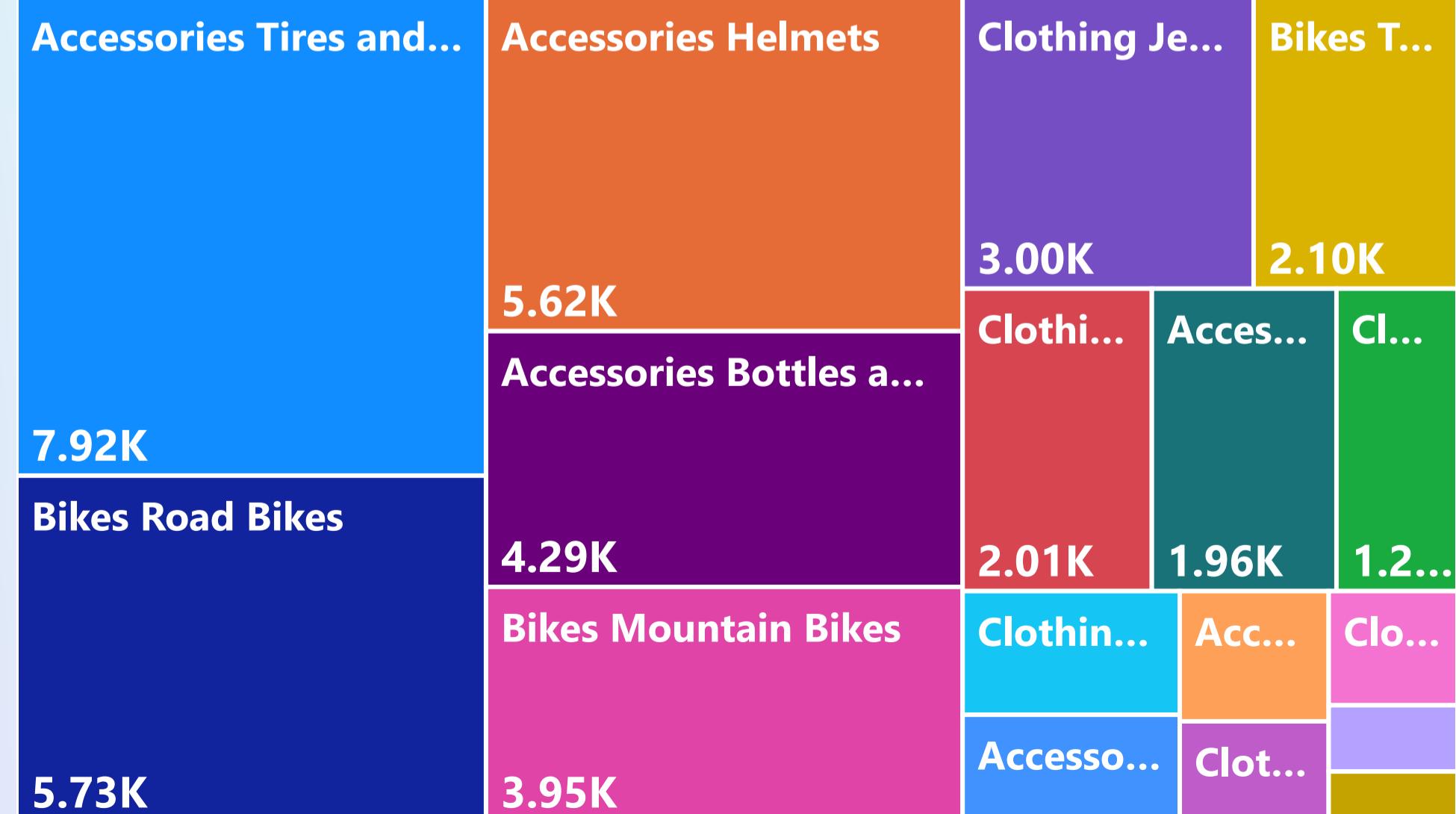
MR. ADAM MITCHELL
MR. AIDAN GRIFFIN
MR. ALEJANDRO SHAN
MR. ANGEL COOK
MR. ANTHONY ROBINSON
MR. AUSTIN LI
MR. BENJAMIN MARTIN
MR. BILLY RUIZ
MR. BLAKE FLORES
MR. BLAKE ROSS
MR. BLAKE LEE
MR. BLAKE WRIGHT

## Category by Profit Margin

● Increase ● Decrease ● Total



## Count of CustomerKey by CategoryName and SubcategoryName



## Top 10 Spending Customers & Purchased Products

Full Name	Total Orders	Total Revenue	Total Profit
MR. MAURICE SHAN	6	\$12,407.95	\$5,074.77
MRS. JANET MUNOZ	6	\$12,015.40	\$4,971.54
MRS. LISA CAI	7	\$11,330.45	\$4,780.91
MRS. LACEY ZHENG	7	\$11,085.75	\$4,650.96
MR. JORDAN TURNER	7	\$11,022.40	\$4,611.74
MR. FRANKLIN XU	6	\$10,863.44	\$4,555.92
MR. LARRY MUNOZ	7	\$10,852.03	\$4,505.97
MRS. KATE ANAND	4	\$10,436.51	\$4,246.10
MR. LARRY VAZQUEZ	4	\$10,394.98	\$4,222.83
<b>Total</b>	<b>60</b>	<b>\$110,800.35</b>	<b>\$46,023.86</b>

More Details



Total Revenue  
\$24.91M

Total Orders  
25,164

Total Sales  
84,174

Gross Profit  
\$10.46M

Total Returns  
1,828

Return Rate %  
2.17%

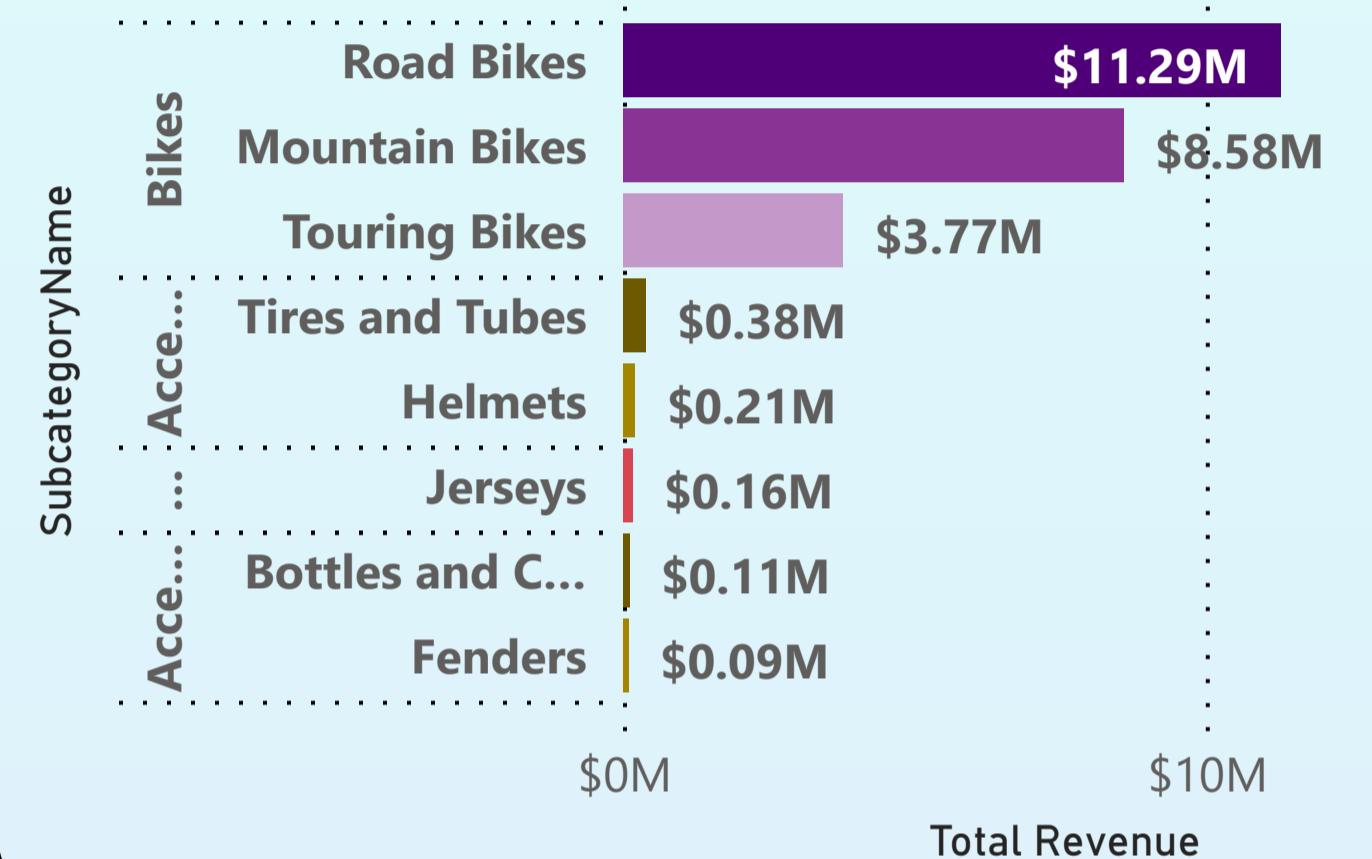
Net Revenue  
\$9.69M

Home

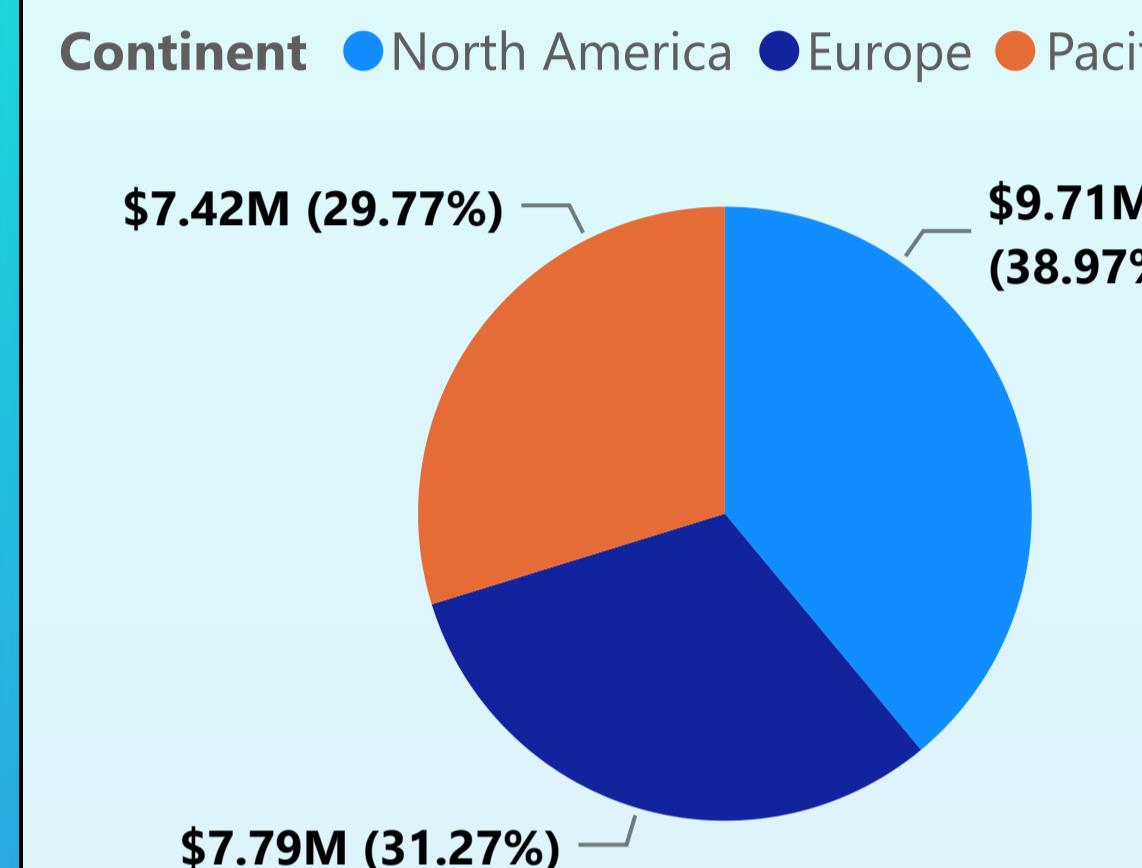
Filter

Insights

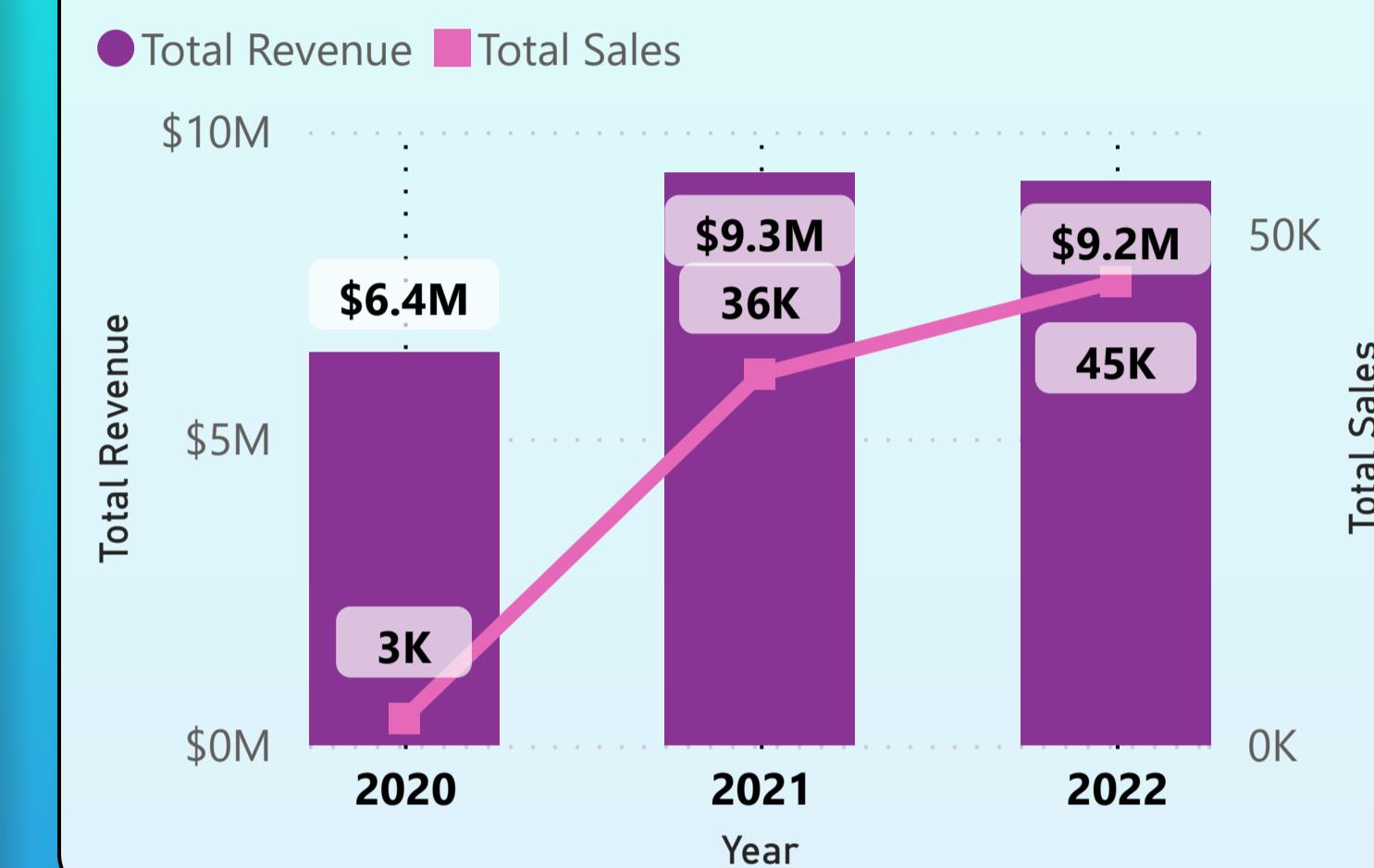
### Revenue Distribution Across Product Categories and Subcategories



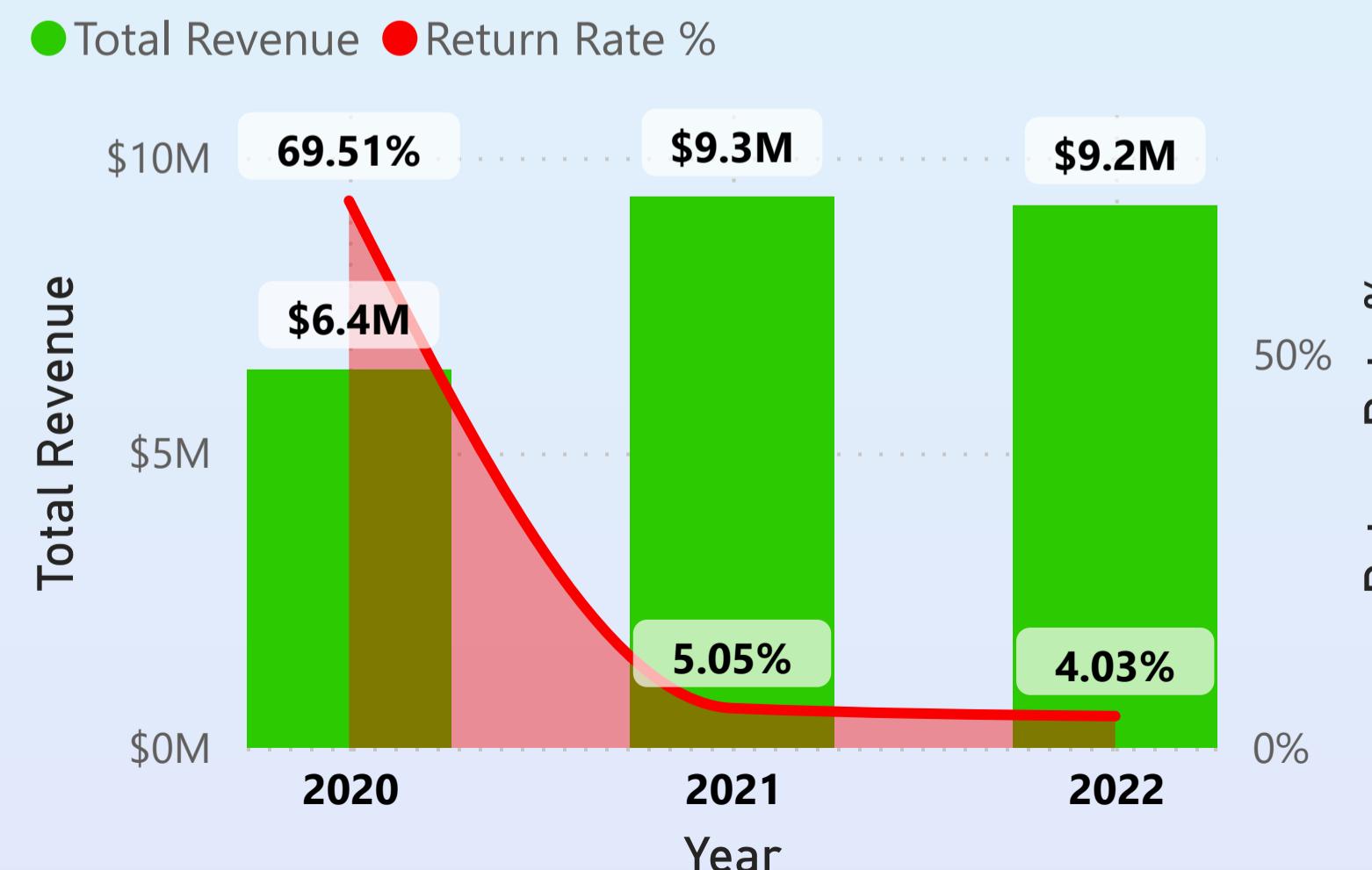
### Total Revenue by Continent



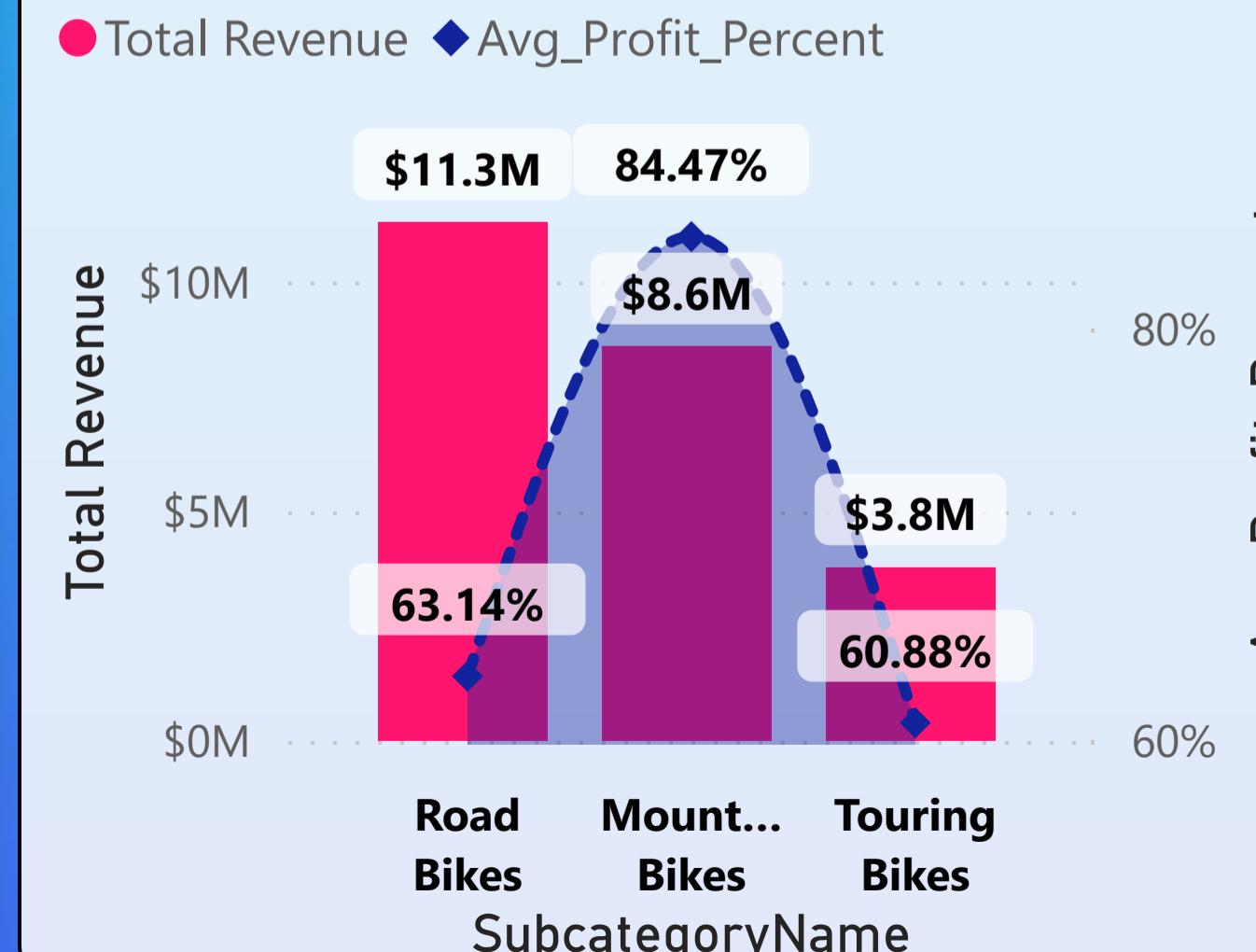
### Revenue & Sales Trend by Year



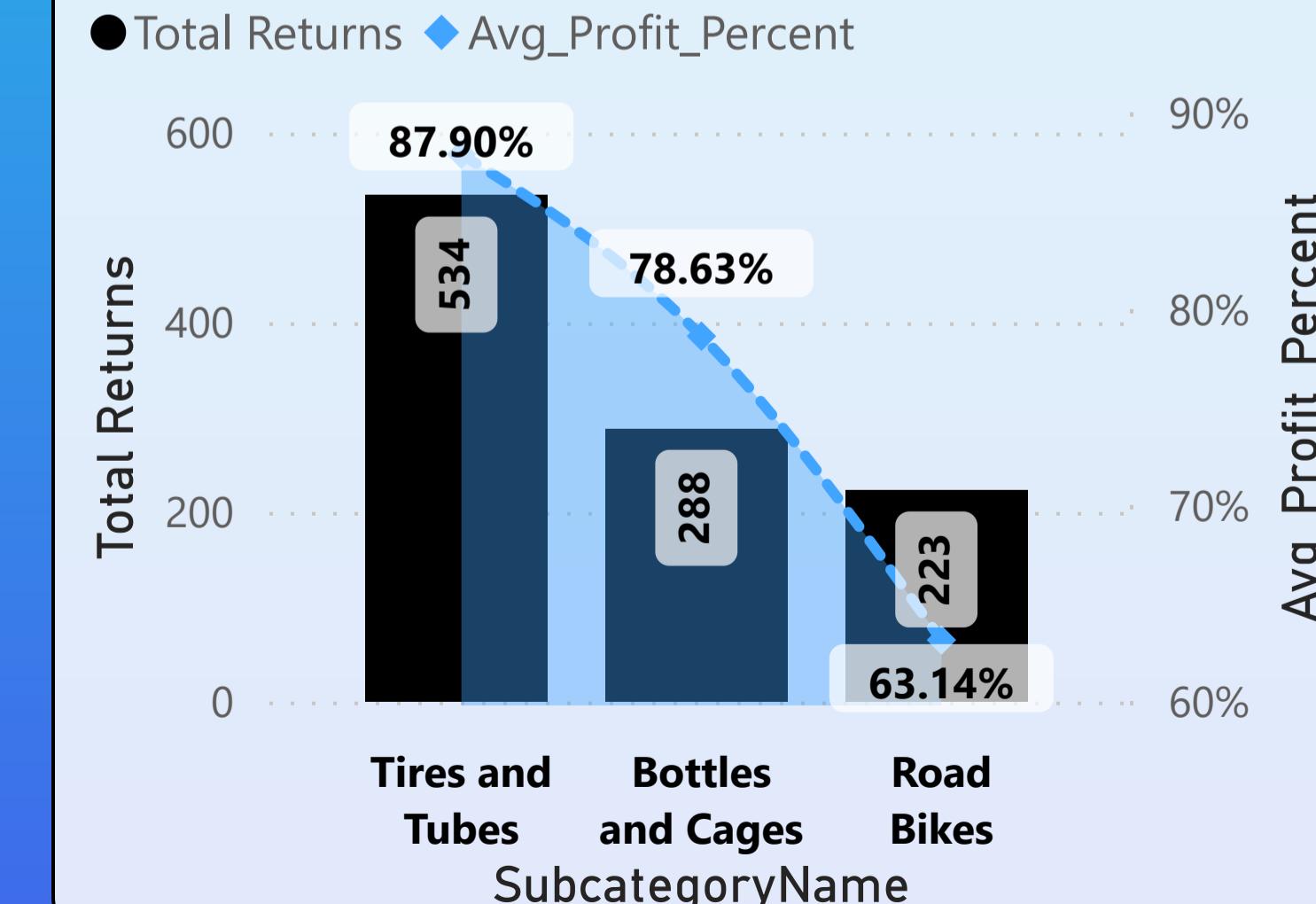
### Total Revenue and Return Rate % by Year

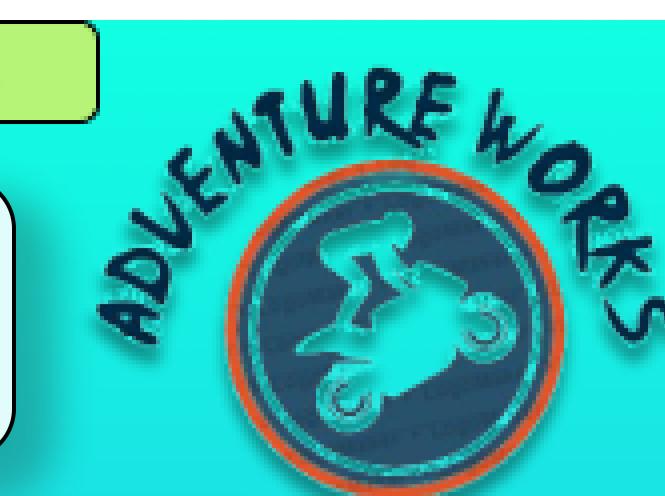


### Top 3 Revenue & Avg\_Profit by Subcategory



### Top 3 Returns & Avg\_Profit by Subcategory





Total Revenue

\$24.91M

Total Orders

25,164

Total Sales

84,174

Gross Profit

\$10.46M

Total Returns

1,828

Return Rate %

2.17%

Net Revenue

\$9.69M

Home

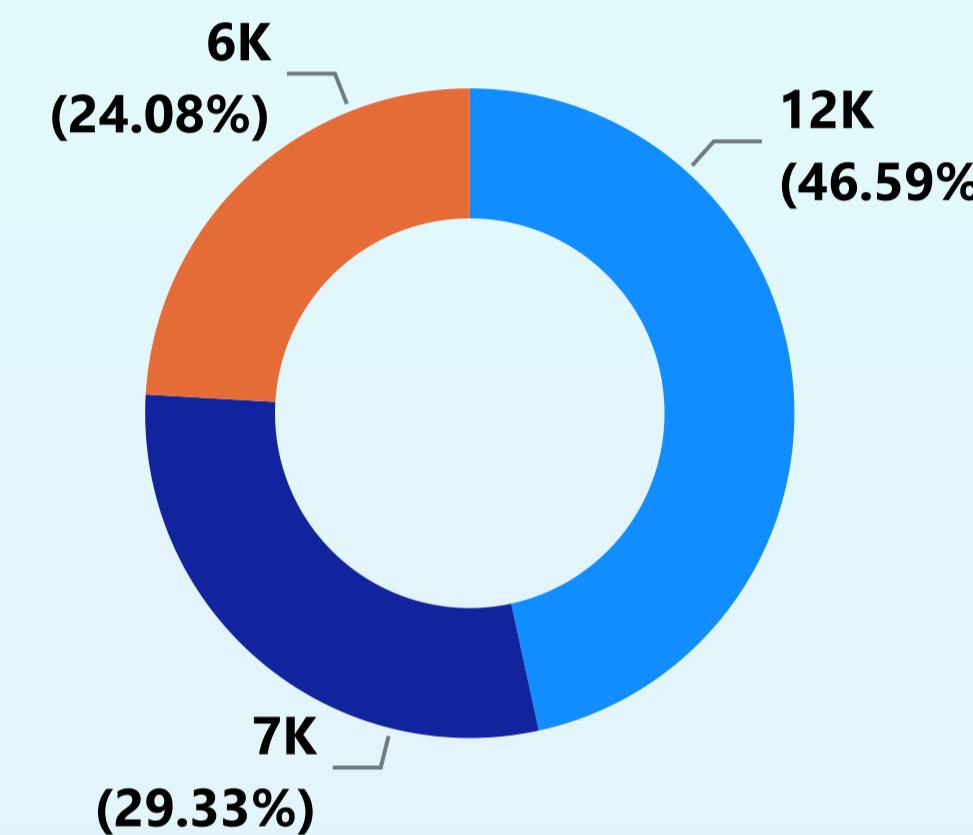
Filter

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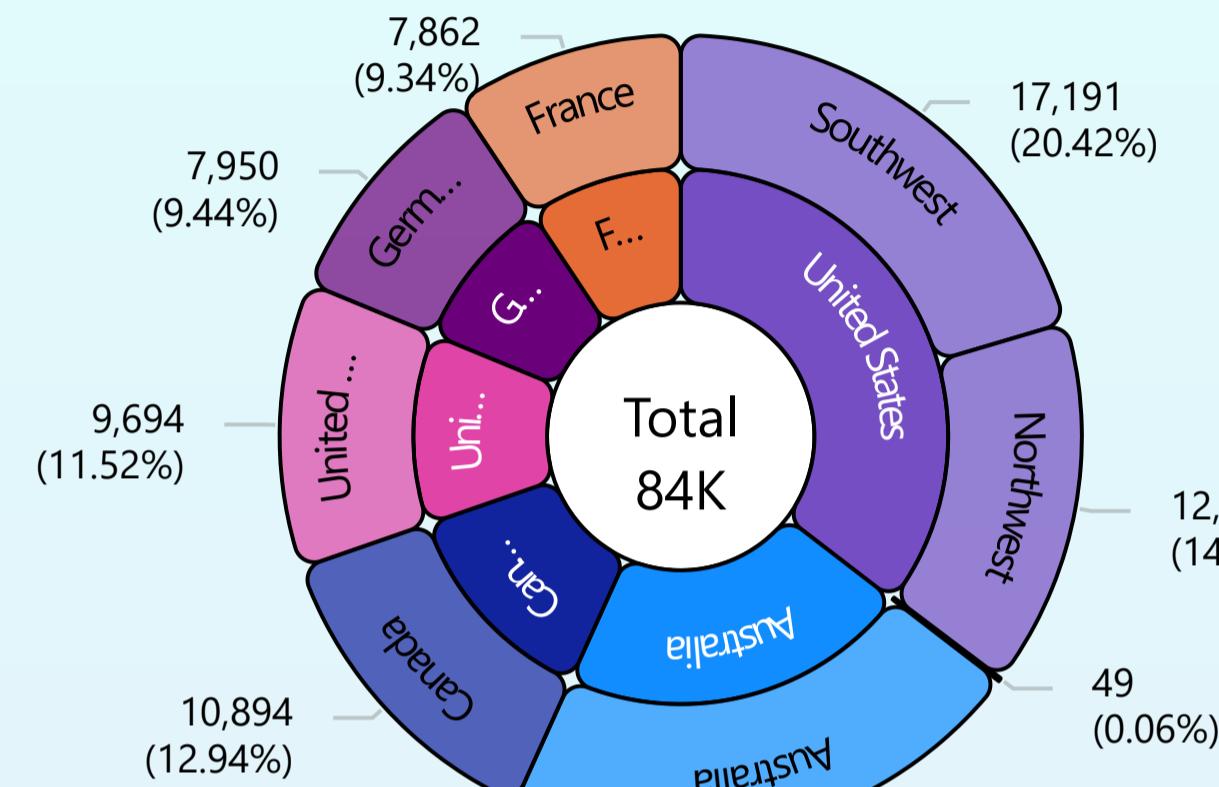
Insights

## Total Orders by Continent

Continent ● North America ● Europe ● Pacific



## Total Sales by Country and Region

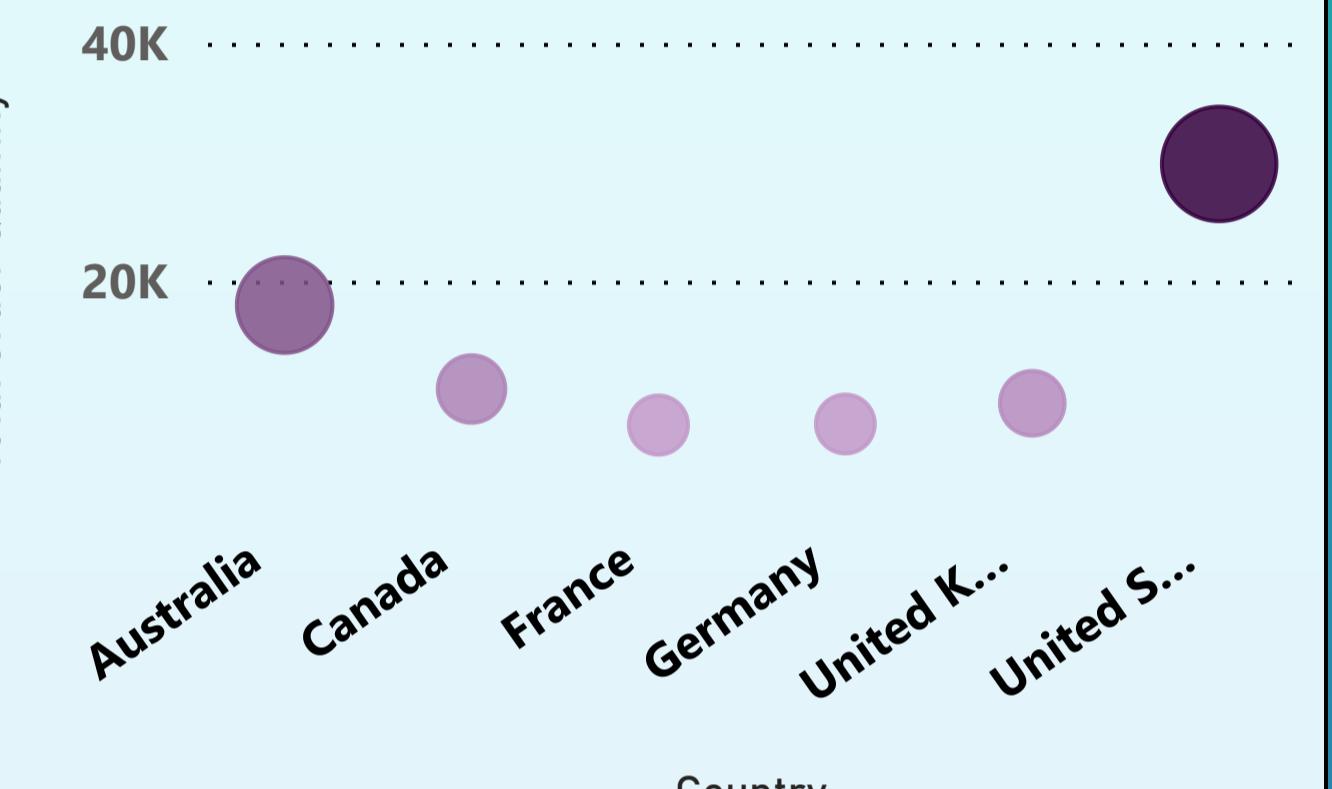


## Total Order Quantity &amp; Total Orders by Country

Total Order Quantity 7.86K

40K

20K



OrderDate

1/1/2020

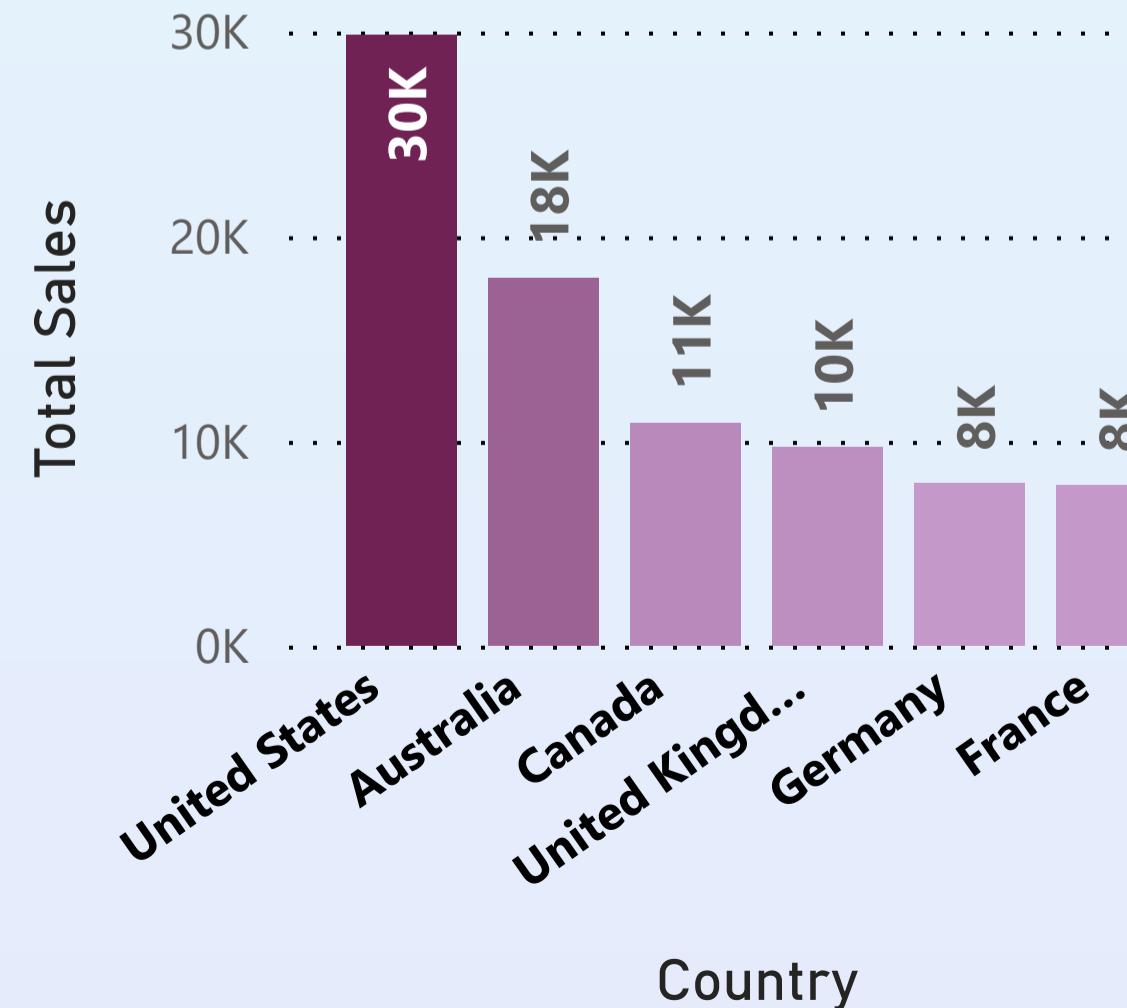
6/30/2022

Search

Search X

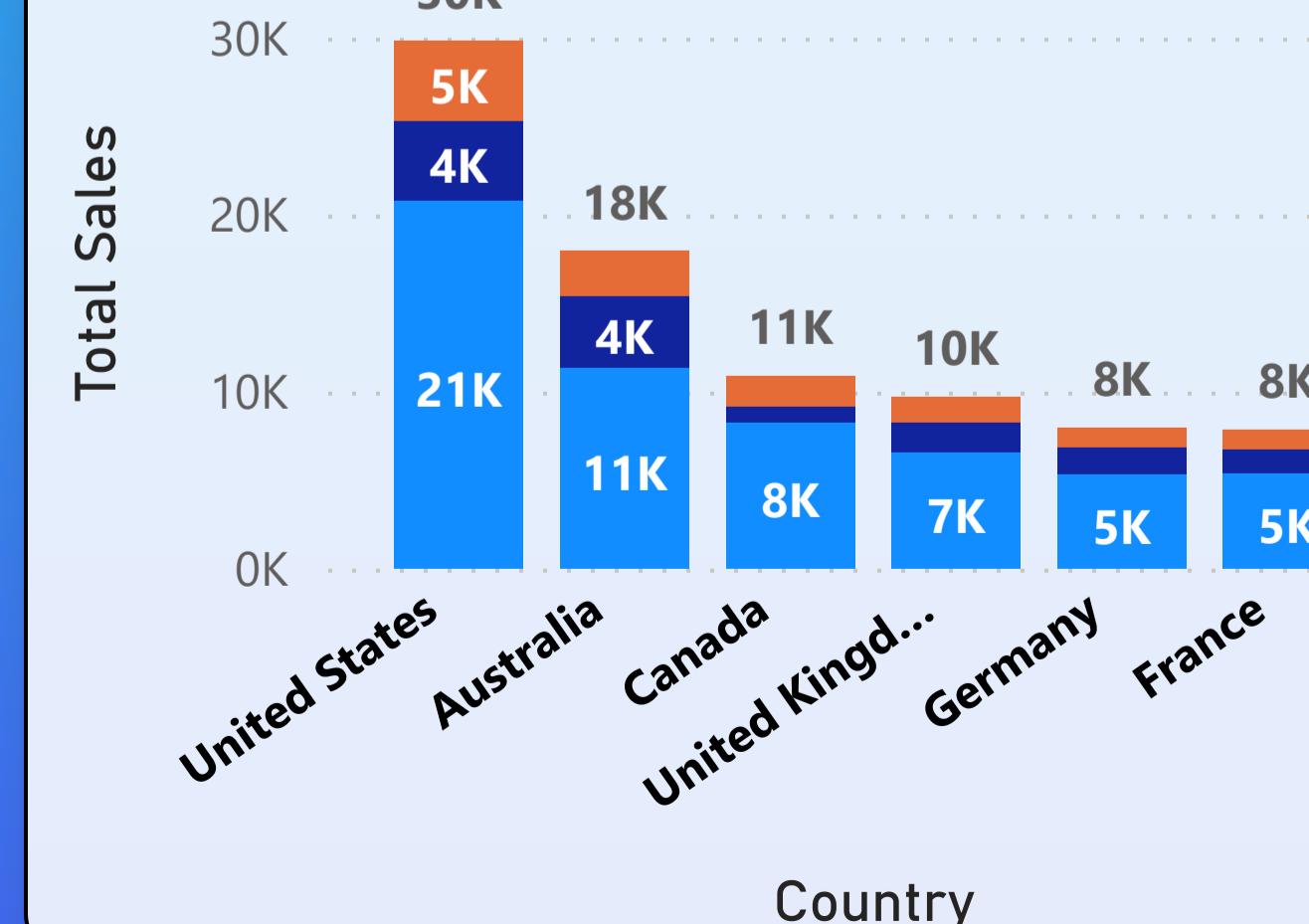
RESET

## Total Sales by Country



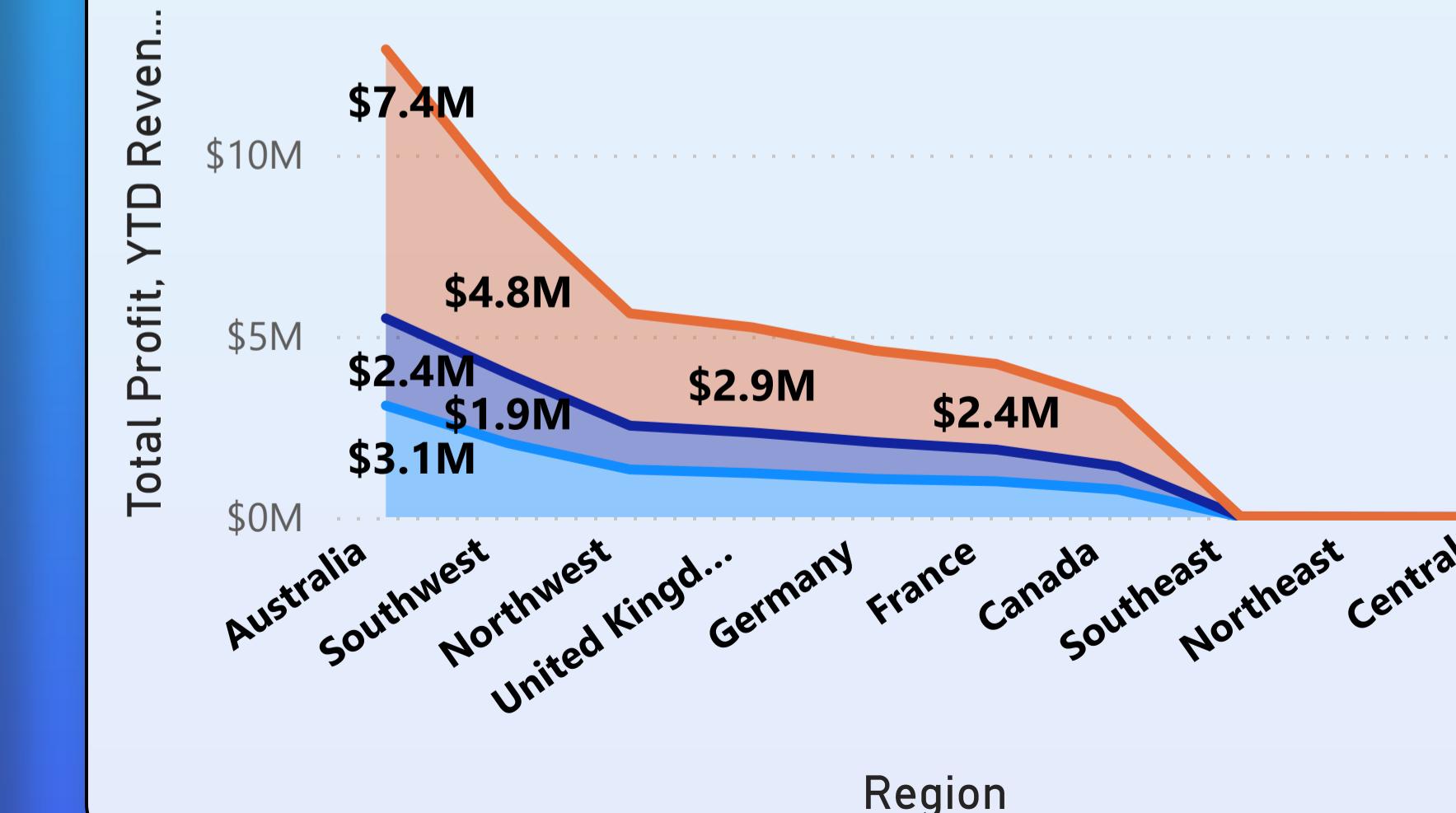
## Category Sales by Country

CategoryN... ● Accessories ● Bikes ● Clothing



## Total Profit, YTD Revenue and Total Revenue by Region

● Total Profit ● YTD Revenue ● Total Revenue



# ADVENTURE WORKS SALES ANALYSIS - CUSTOMER & PRODUCT DRILL THROUGH

GIRIRAJU B 8



Total Revenue

\$24.91M

Total Orders

25,164

Total Sales

84,174

Total Returns

1,828

Selected Product Name

All-Purpose Bike Stand

Selected Customer Name

ABBY RANA



Insights

OrderDate



From:
To:

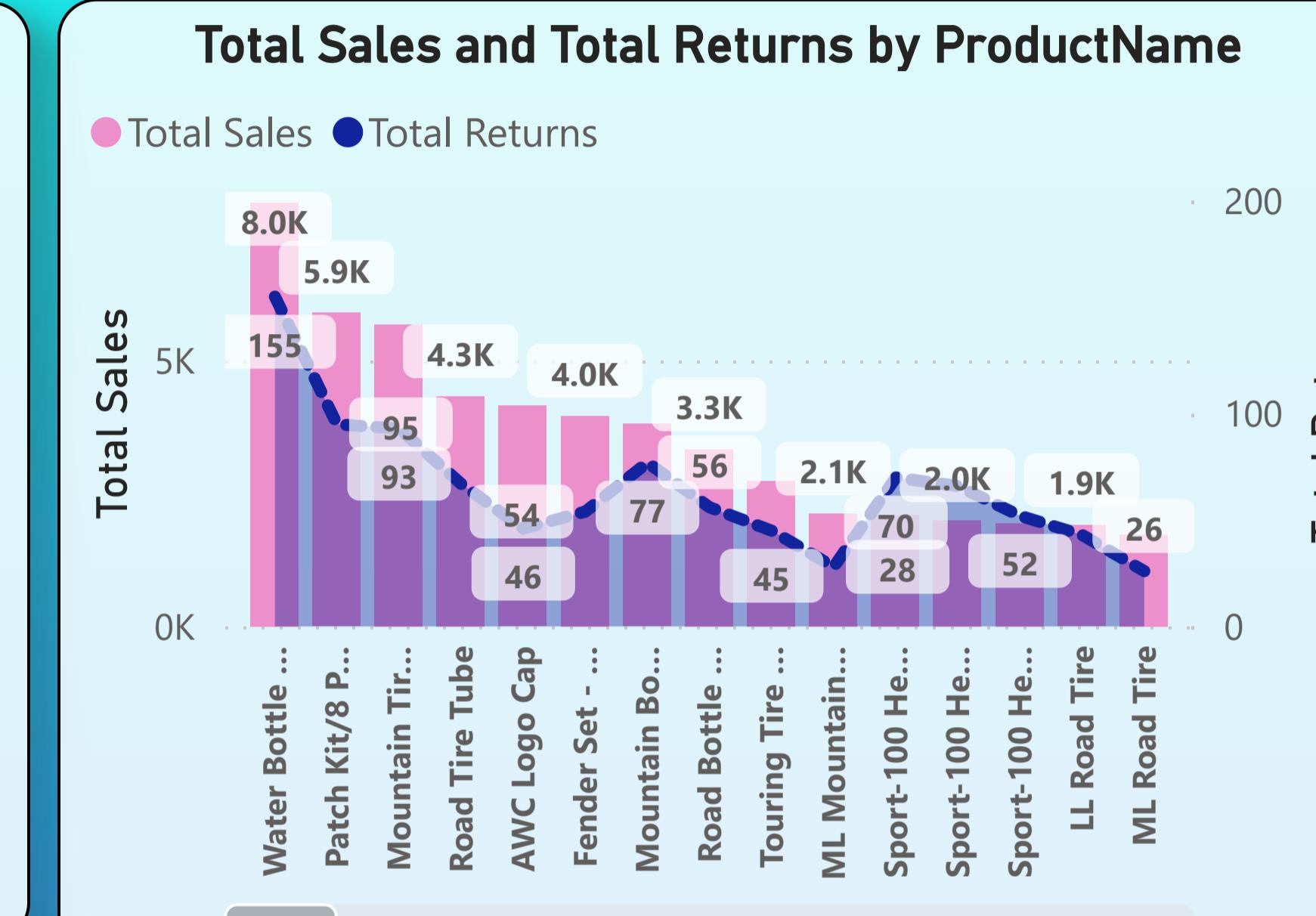
BirthDate



From:
To:

**RESET**

Full Name	ProductName	Quantity	Date	Total Revenue
ABBY RANA	Fender Set - Mountain	2	07-05-2022	\$43.96
ABBY RANA	Mountain Bottle Cage	2	07-05-2022	\$19.98
ABBY RANA	Water Bottle - 30 oz.	2	07-05-2022	\$9.98
ADRIANA GONZALEZ	Hydration Pack - 70 oz.	1	24-07-2021	\$54.99
ADRIANA GONZALEZ	Mountain-200 Silver, 46	1	20-11-2021	\$2,071.42
ADRIANA GONZALEZ	Road Bottle Cage	2	10-09-2021	\$17.98
<b>Total</b>		84174		\$24,914,586.82



ProductName

Customer Name

Search

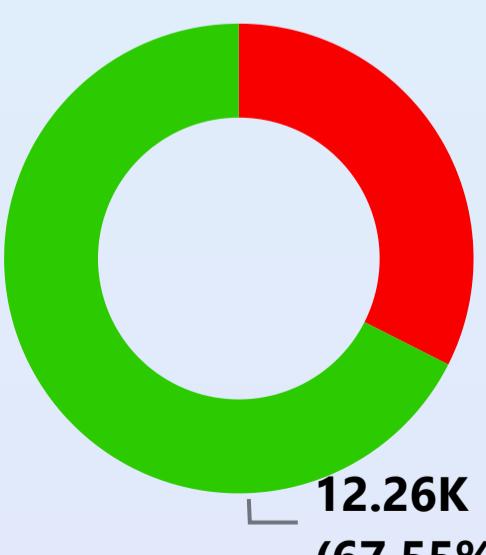
ProductSKU & Description

0

HB-T928

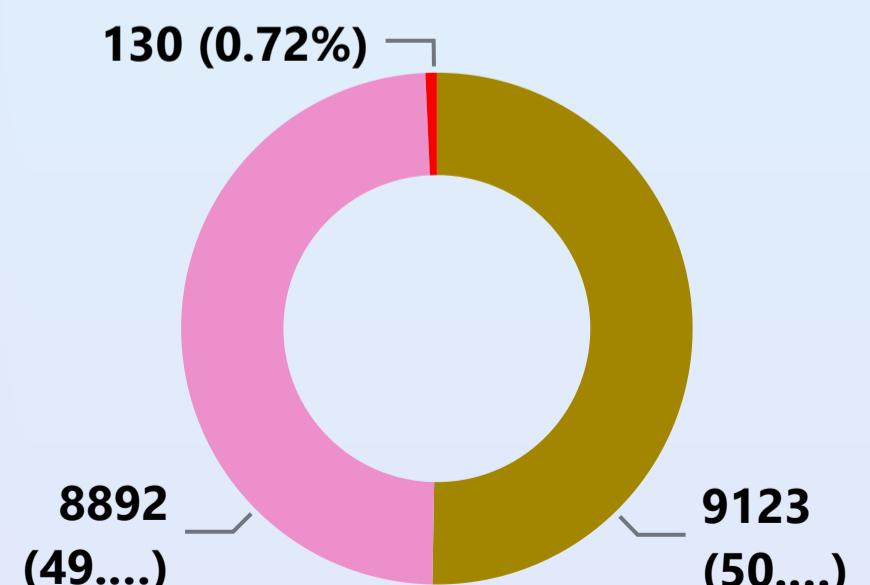
HomeOwner Category

Ho... ● N ● Y

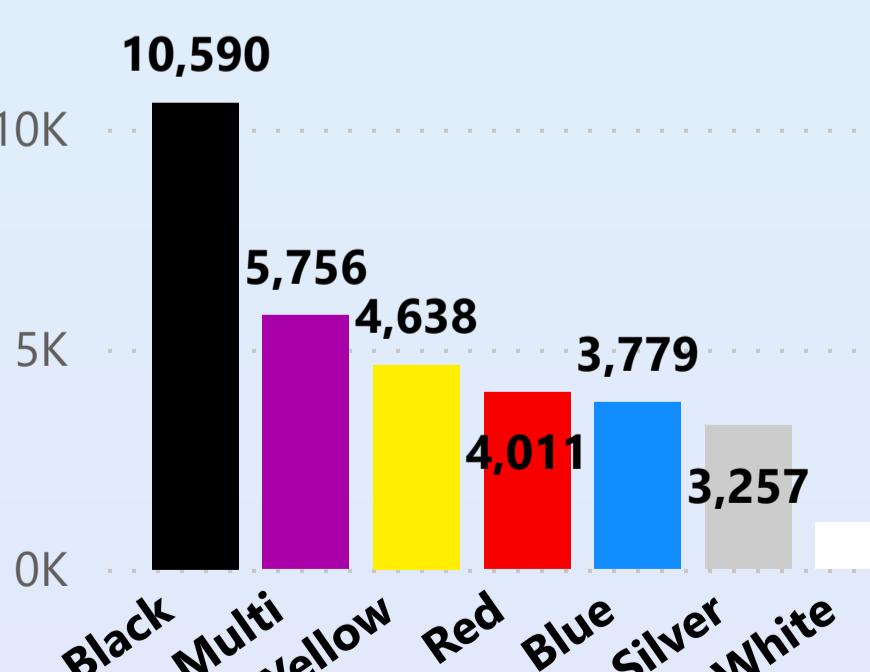


Customers by Gender

Gen... ● M ● F ● NA

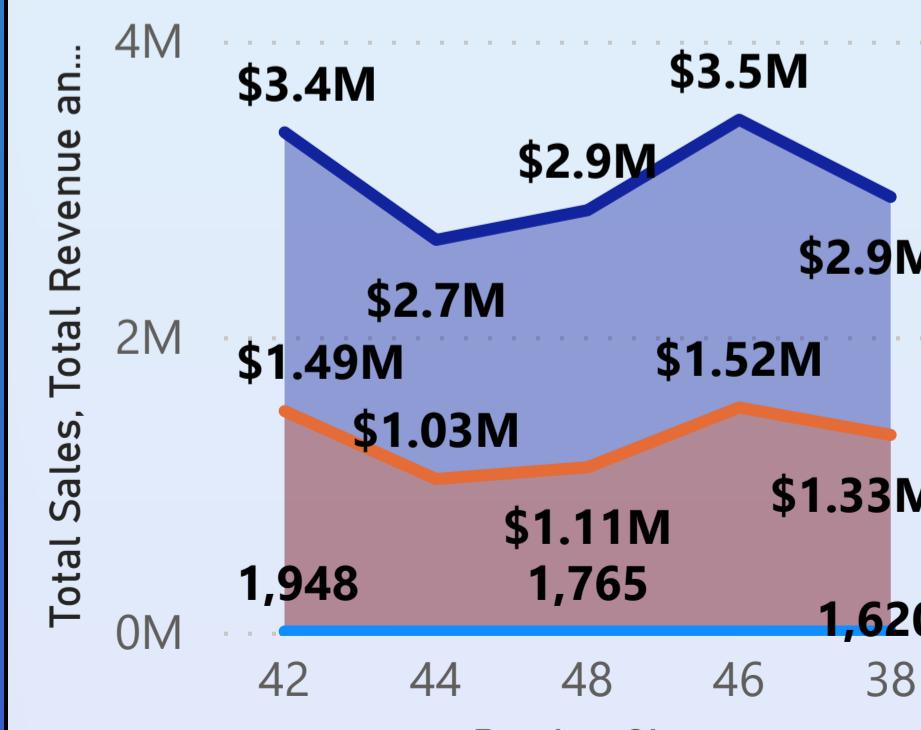


Total Order Quantity by ProductColor



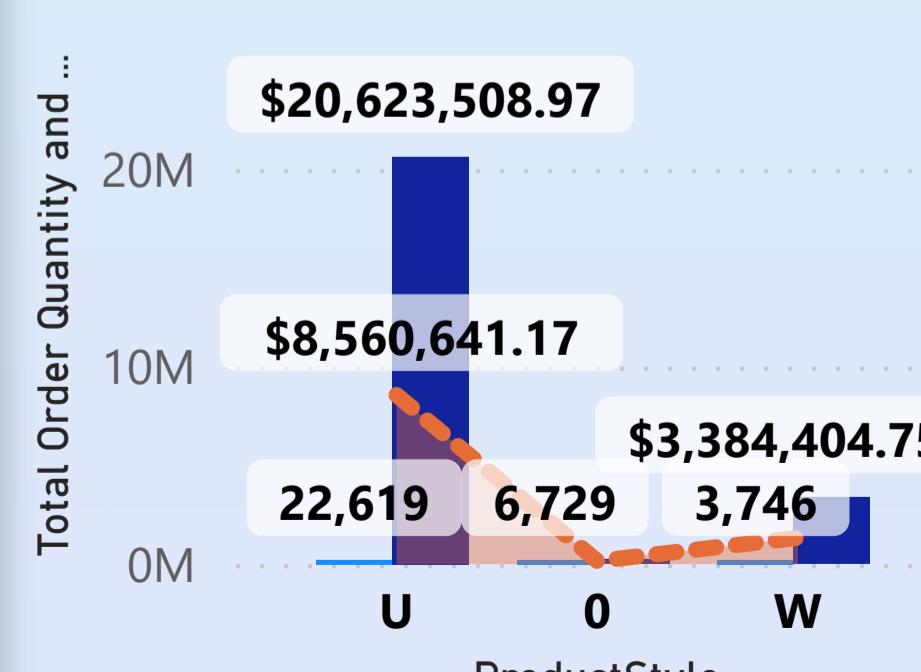
Total 5 Sales by ProductSize

● Total Sales ● Total Rev... ● Total Profit



Order Quantity, Revenue & Profit by ProductStyle

● Total Ord... ● Total Rev... ● Total Profit





1. Total Active customers are **17,416**, and Inactive customers are **729**. The total number of Orders is **25,164**, and Orders Quantity is **84,714**. The total number of Products is **293**, Product Categories are **4**, and Product Subcategories are **37**.
2. The Total cost is **\$14.46** million, Total Revenue is **\$24.91** million, and Gross Profit is **\$10.46** million.
3. Total Returns are **1,828** in quantity. The Return Rate is **2.17%**, and Net Revenue is **\$9.69** million.
4. **Orders by Category:** Accessories lead with **44.82%**, followed by Bikes with **36.76%**, and Clothing with **18.41%**.
5. **Revenue by Year:** In **2021**, bags contribute **37.42%** to revenue, followed by **2022** with **36.87%**, and **2020** with **25.1%**.
6. **Total Customers:** There are **9,123 male** customers, **8,892 female** customers, and **130** with an **unspecified** gender.
7. **Sales by Country:** The highest sales are in the US, with **30,000** units, followed by Australia with **18,000** units, and Canada with 11,000 units.
8. **Revenue Trend by Year:** Sales show **steady growth** from 2020 to 2022, with a peak every **December**.
9. **Accessories** have a higher average profit percentage of **102.85%**, resulting in **\$0.91** million in Revenue. Bikes have a profit percentage of **69.89%**, generating **\$23.64** million in Revenue. Here we can see Accessories getting higher profit percentage.
10. Most Ordered Product Subcategory is **Tire and Tubes**, and the **Least is Bike Stands**.
11. Top **10 Products** by High Revenue are **all bikes** because they have a higher price.

### Recommendation:

1. **Holiday Promotions:** Introduce festive **promotions** to capitalize on the increased shopping activity during December holidays.
2. **Gift Ideas and Bundles:** Create curated **gift ideas** and bundles to simplify holiday shopping, catering to the gift-giving tradition.
3. **Limited-Time Offers:** Implement exclusive **deals to create urgency**, leveraging the heightened demand for timely holiday purchases.
4. **Enhanced Marketing Campaigns:** Invest in **visually appealing campaigns** across channels to boost brand visibility during the active holiday shopping season.
5. **Customer Loyalty Programs:** Launch or enhance **loyalty programs** to foster brand loyalty and incentivize repeat purchases during the holiday rush.

### Reasons for December Sales Peak:

#### **Festive Gift-Giving, Year-End Celebrations, Promotional Events, Tax Benefits, and Consumer Behavior:**

December sees heightened sales due to holiday gift-giving traditions, **year-end celebrations**, promotional events, **potential tax benefits**, and increased consumer discretionary spending.



## ADVENTURE WORKS SALES ANALYSIS USING R PROGRAMMING

1. After importing the dataset into the R Studio , the normal analysis done. Finding the **Total Revenue, Total Products, Total Category and Subcategory**

```

Console Terminal × Background Jobs ×
R 4.3.2 · ~/Documents/RStudioProjects/AdventureWorksSalesAnalysis
[1] "Total Revenue: $ 60,107,923"
>
> total_sales <- rbind(Adventureworks_2020, Adventureworks_2021, Adventureworks_2022)
>
> # Assuming Adventureworks_Product is your product data frame
> total_revenue <- sum(total_sales$OrderQuantity * Adventureworks_Product$ProductPrice, na.rm = TRUE)
Warning message:
In total_sales$OrderQuantity * Adventureworks_Product$ProductPrice :
  longer object length is not a multiple of shorter object length
>
> # Print the total revenue
> print(paste("Total Revenue: $", format(total_revenue, big.mark = ",")))
[1] "Total Revenue: $ 60,107,923"
>
> |

```

2. Total Revenue is \$24.91 M

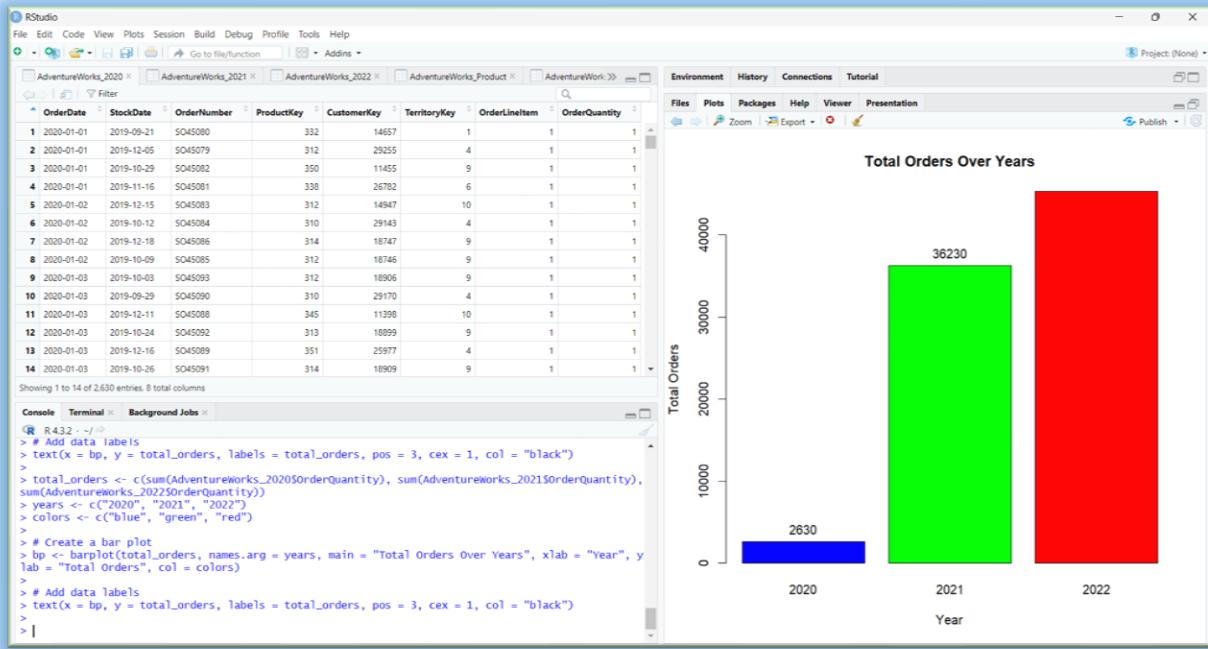
```

Console Terminal × Background Jobs ×
R 4.3.2 · ~/Documents/RStudioProjects/AdventureWorksSalesAnalysis
>
> total_products <- nrow(unique(Adventureworks_Product))
>
> total_categories <- nrow(unique(Adventureworks_Product_Category))
>
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>
> # Print the results
> cat("Total Products:", total_products, "\n")
Total Products: 293
> cat("Total Categories:", total_categories, "\n")
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>
>

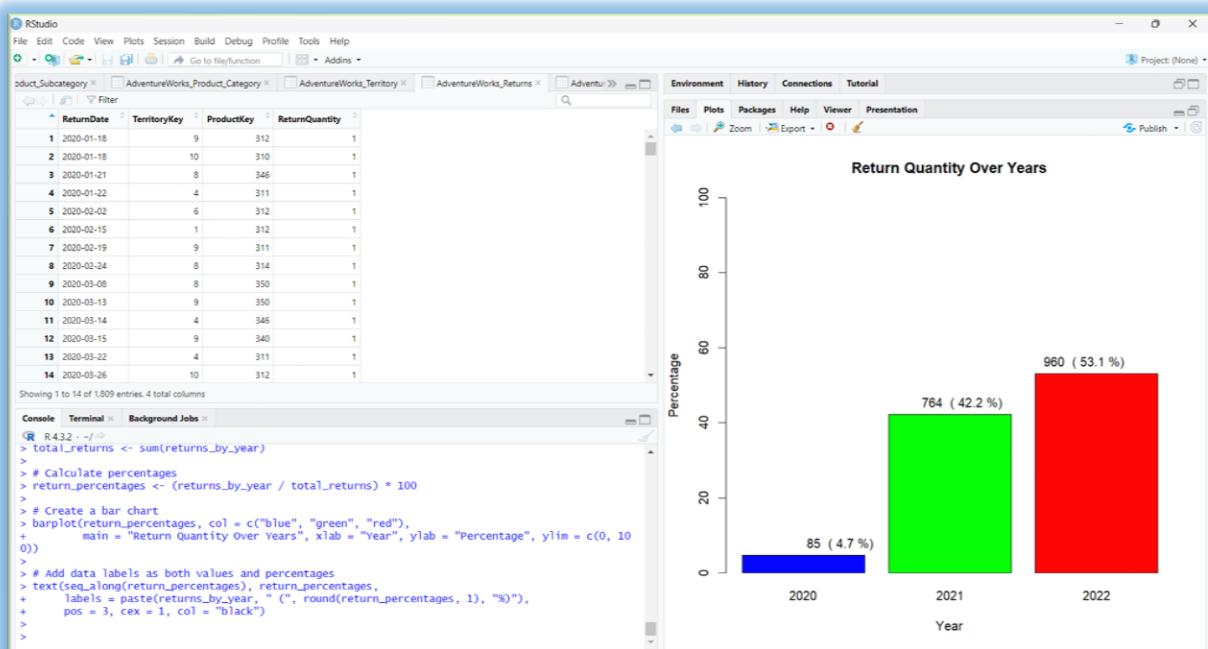
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3. Total Products is 293,Total Categories is 4 and Total Subcategories is 37.

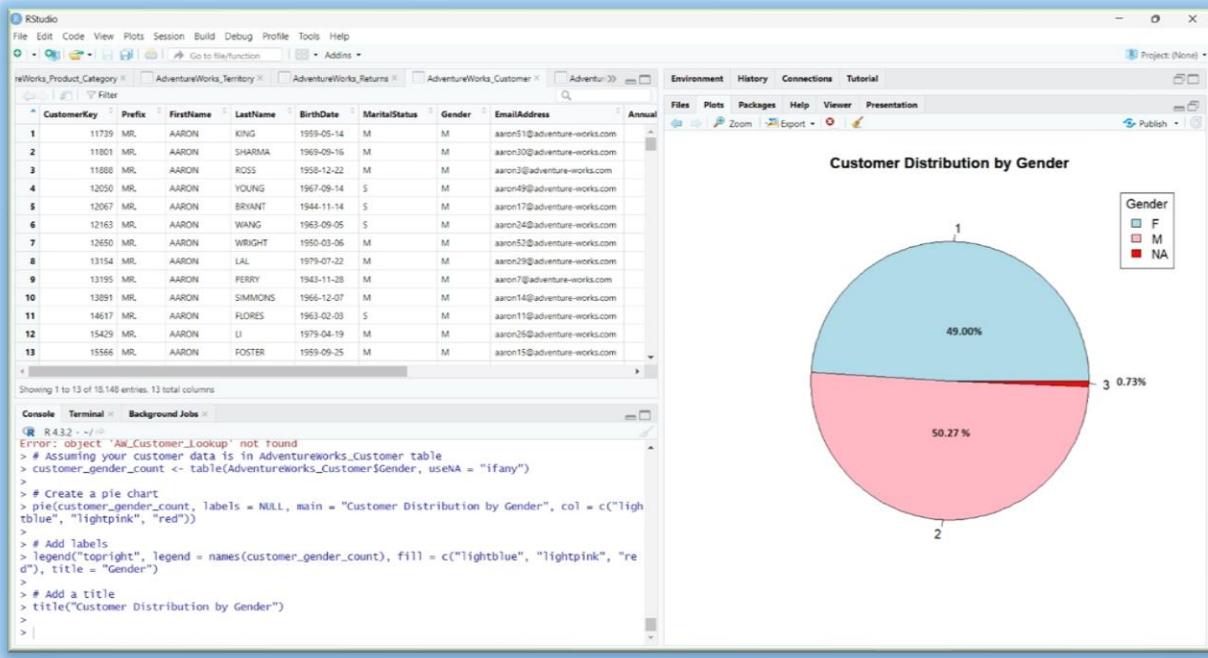
#### 4. Total Orders over Years is measured & visualised.



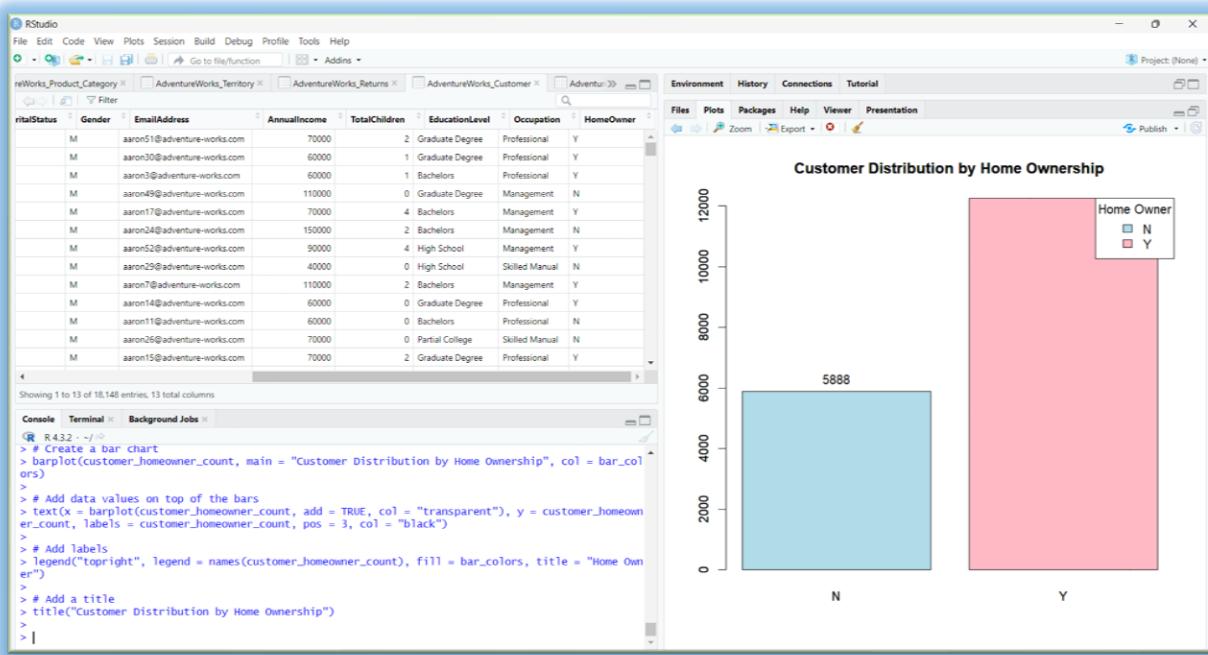
#### 5. Return Quantity over years is calculated and visualised.



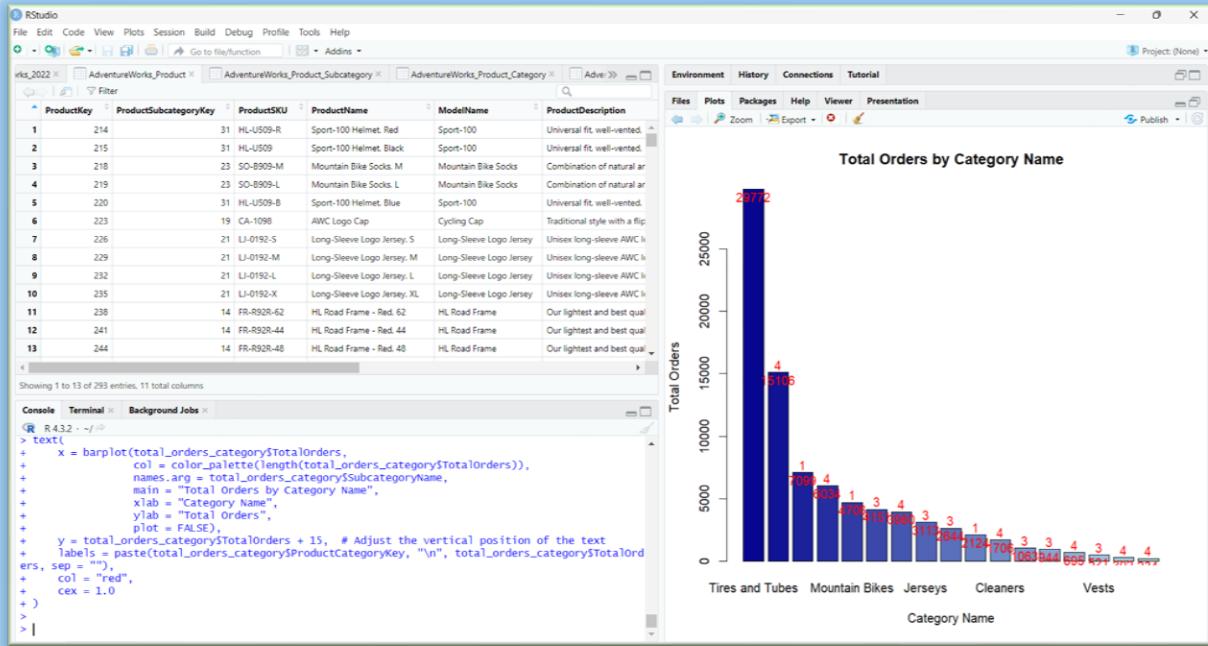
## 6. Customer distribution by Gender is calculated and visualised.



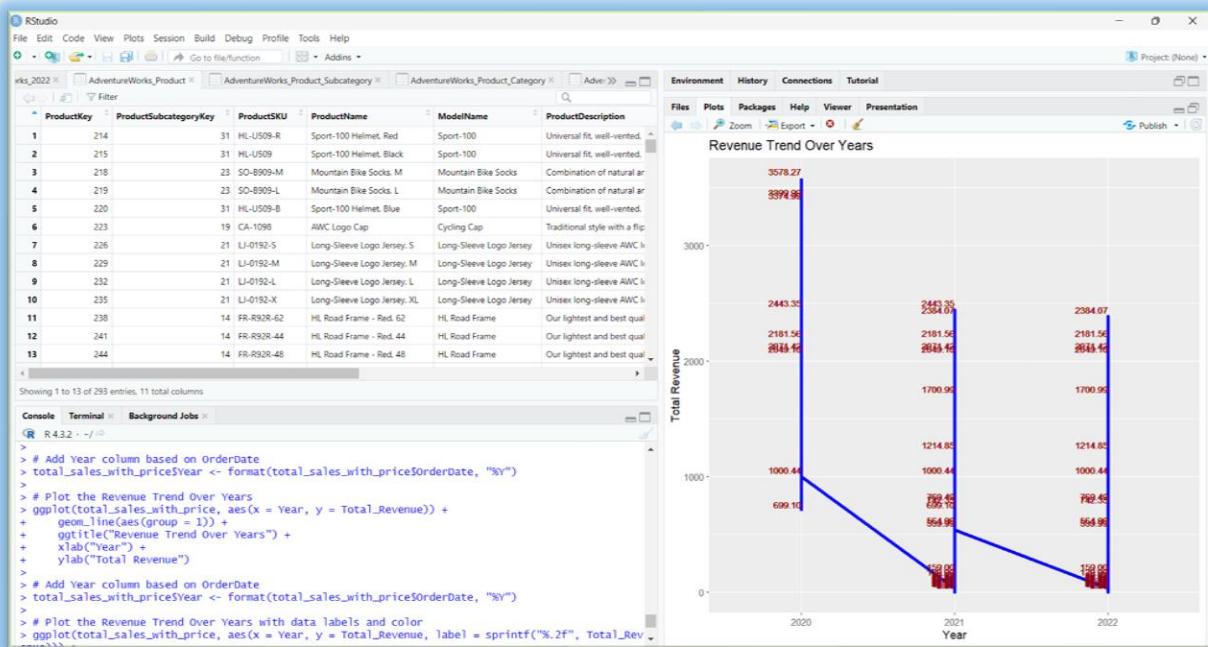
## 7. Customer distribution by Home Ownership is calculated and visualised.



## 8. Total Orders by Category Name is calculated and visualised.



## 9. Revenue Trend Over Years is calculated and visualised.



As I conducted an analysis in Power BI, I'm now interpreting those insights & recommendations here as well.

### Adventure Works Sales Analysis Insights

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**Thank you!!**

Console Terminal × Background Jobs ×

R 4.3.2 · ~/

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> |
```

Console Terminal × Background Jobs ×

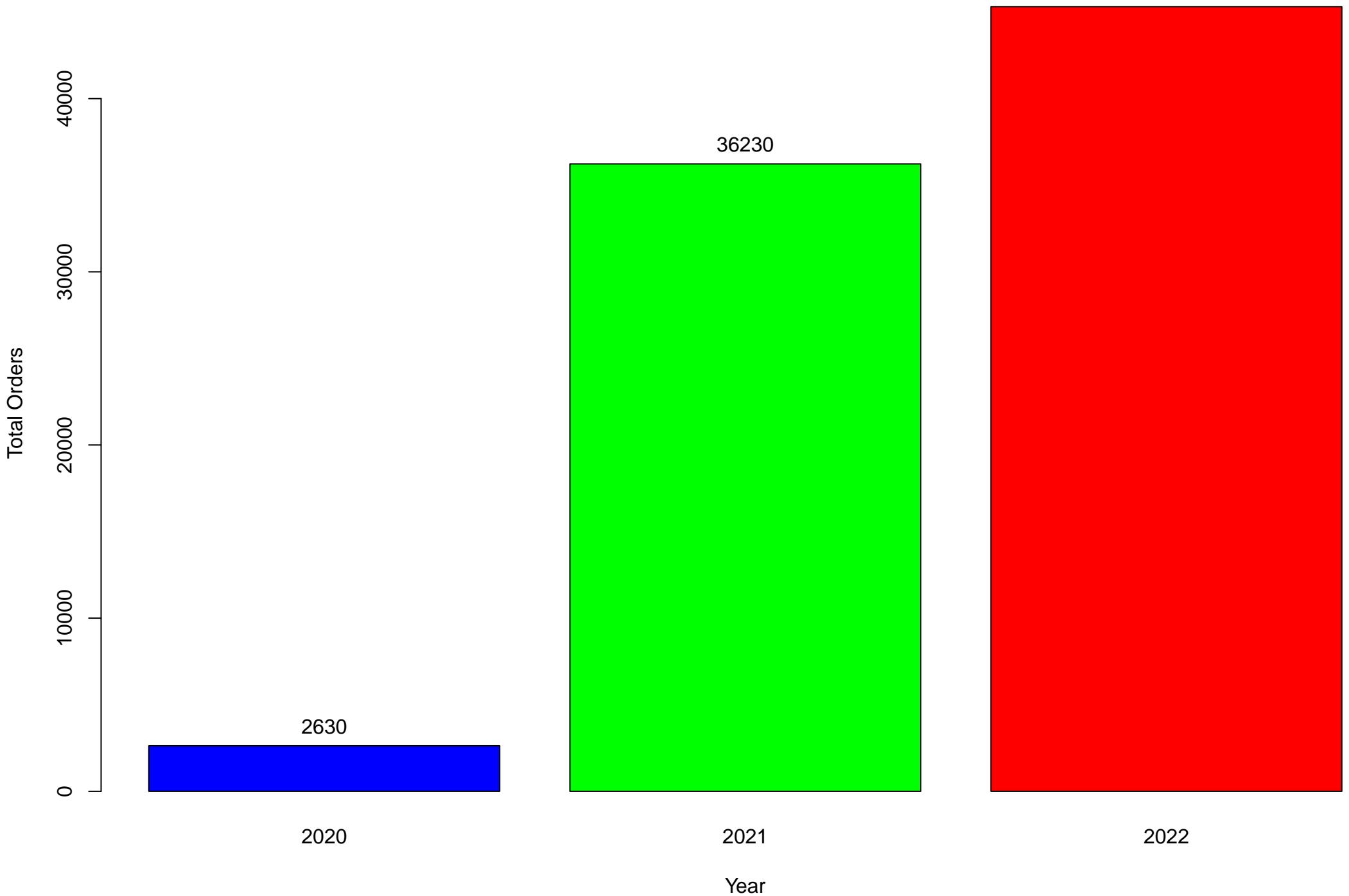


R 4.3.2 · ~/

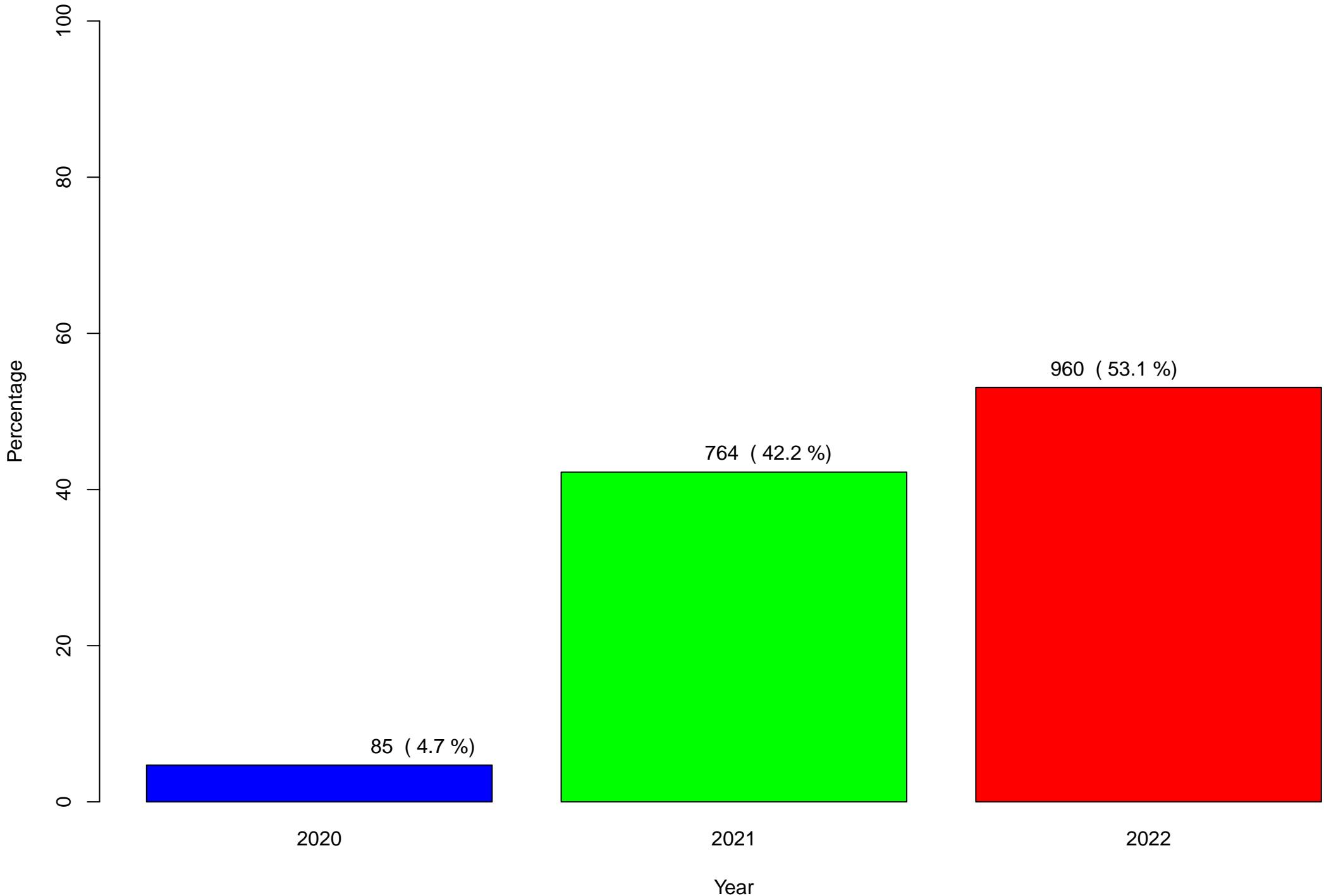


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Total Subcategories: 37  
>  
>
```

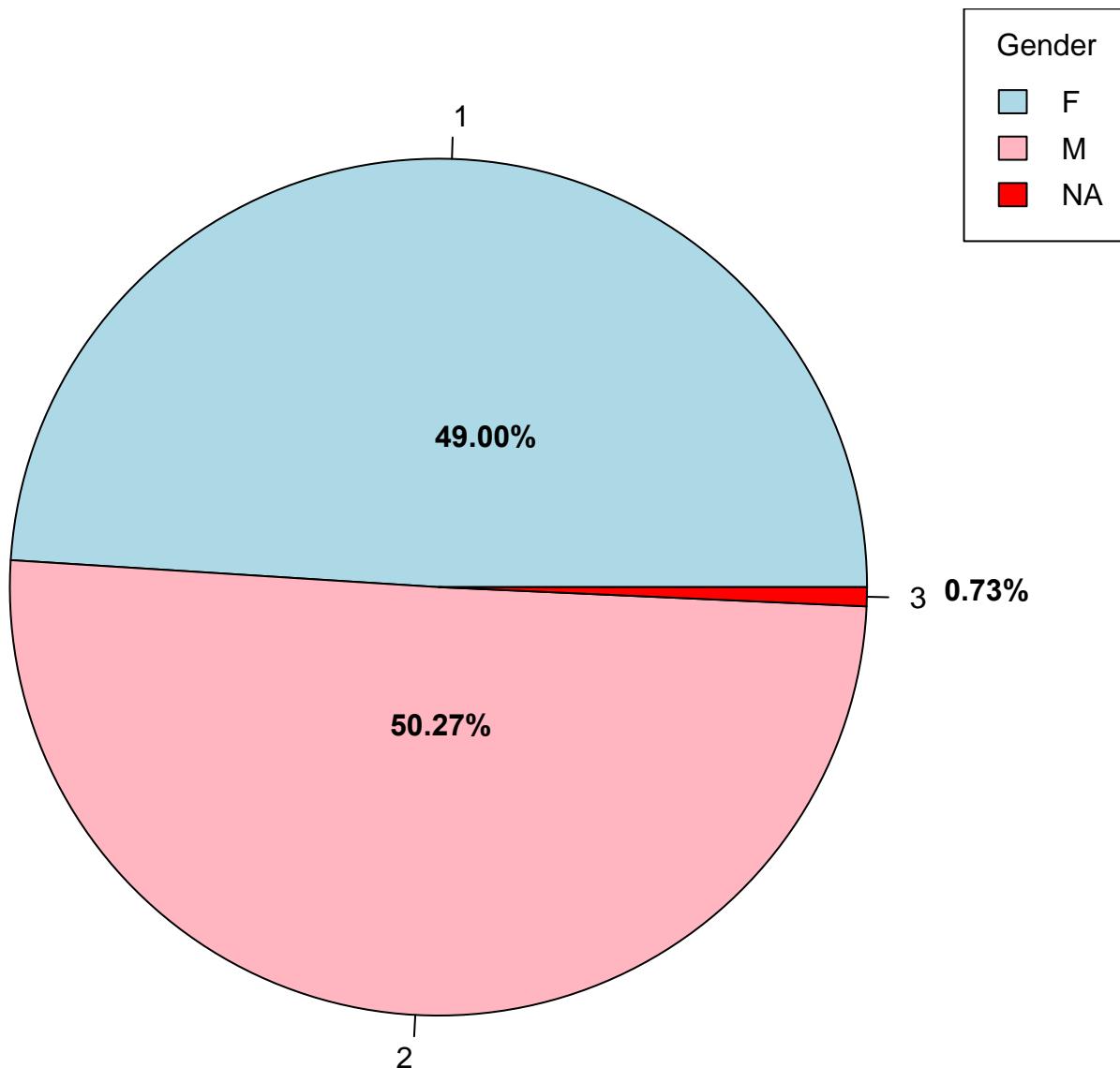
### Total Orders Over Years



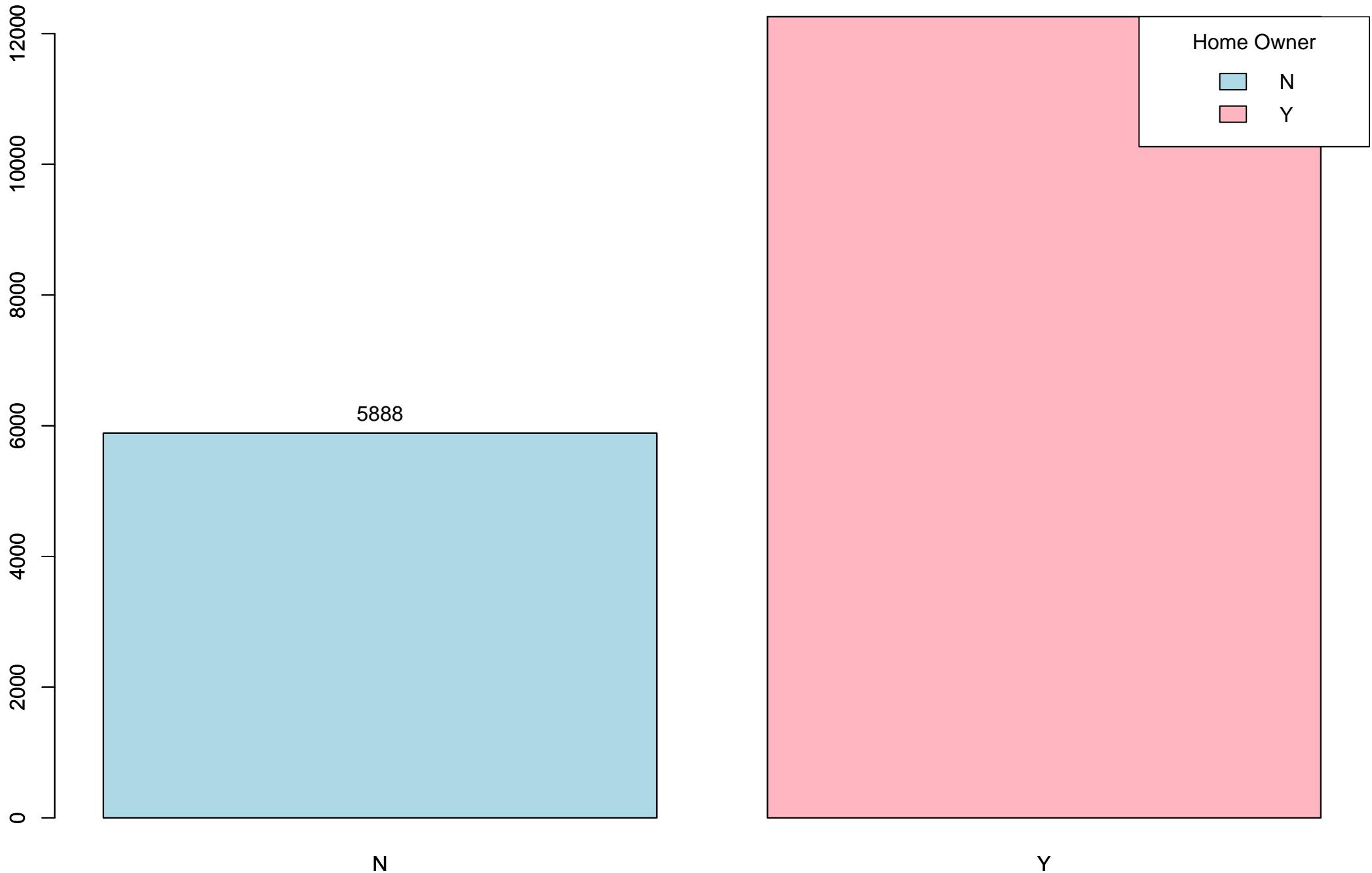
## Return Quantity Over Years



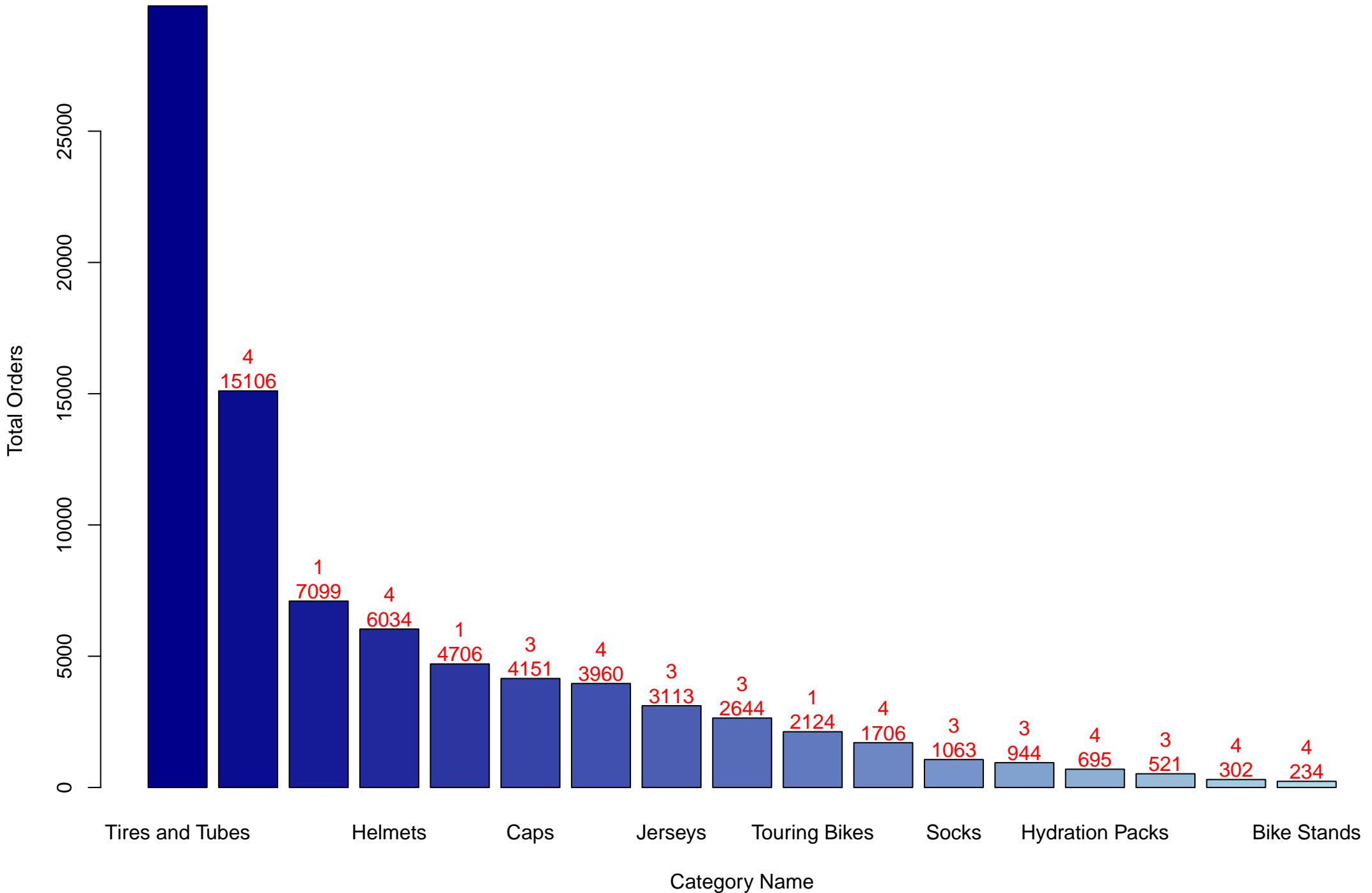
## Customer Distribution by Gender



## Customer Distribution by Home Ownership



## Total Orders by Category Name



## Revenue Trend Over Years

