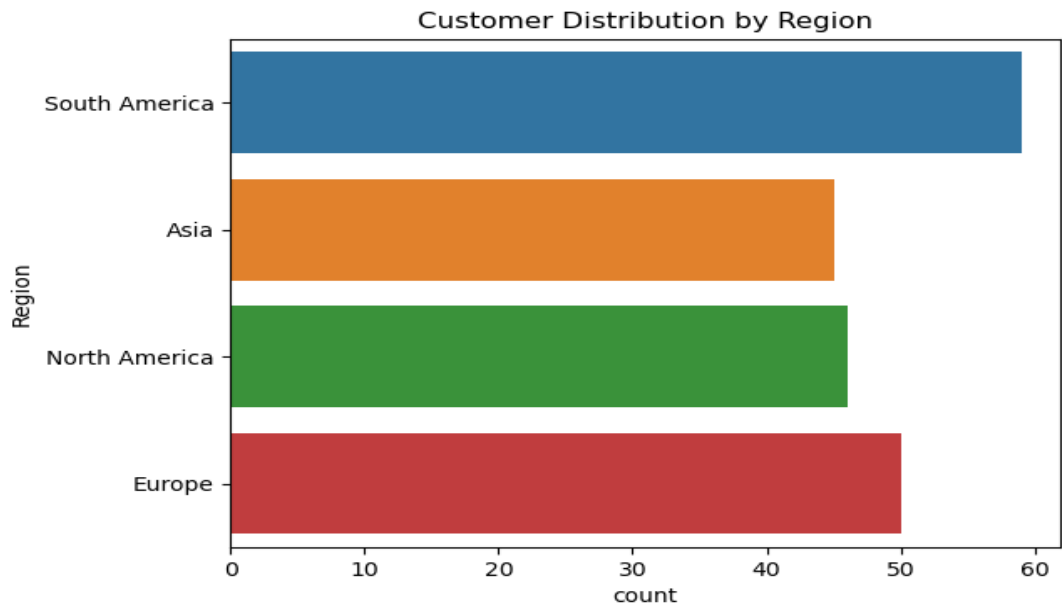# EDA

## 1. Customer Distribution by Region (Bar Chart)



**South America** leads with **59 customers**, making it the top market. **Europe** follows with **50**, while **North America and Asia** have **46 and 45**, respectively. South America's dominance suggests opportunities for targeted marketing, but Europe's strong presence also warrants attention.

## 2. Top-selling Products by Quantity

```
Top 10 Products by Quantity Sold:
ProductID
P059    46
P054    46
P029    45
P079    43
P061    43
P057    43
P048    43
P062    39
P020    38
P028    38
Name: Quantity, dtype: int64
```

```
       ProductName      Quantity
0      SoundWave Jeans         46
1      SoundWave Cookbook      46
2      TechPro Headphones      45
3      ActiveWear Rug          43
4      HomeSense Desk Lamp     43
5      ActiveWear Smartphone   43
6      TechPro Cookbook        43
7      HomeSense Novel         39
8      ActiveWear Jacket       38
9      HomeSense Desk Lamp     38
```

Top products: **SoundWave Jeans** and **Cookbook** lead with 46 units each, followed by **TechPro Headphones** (45). Other popular items, like **ActiveWear Rug** and **HomeSense Desk Lamp**, sold 43 units. These trends aid inventory and promotions.

## 3. Monthly Sales Trend
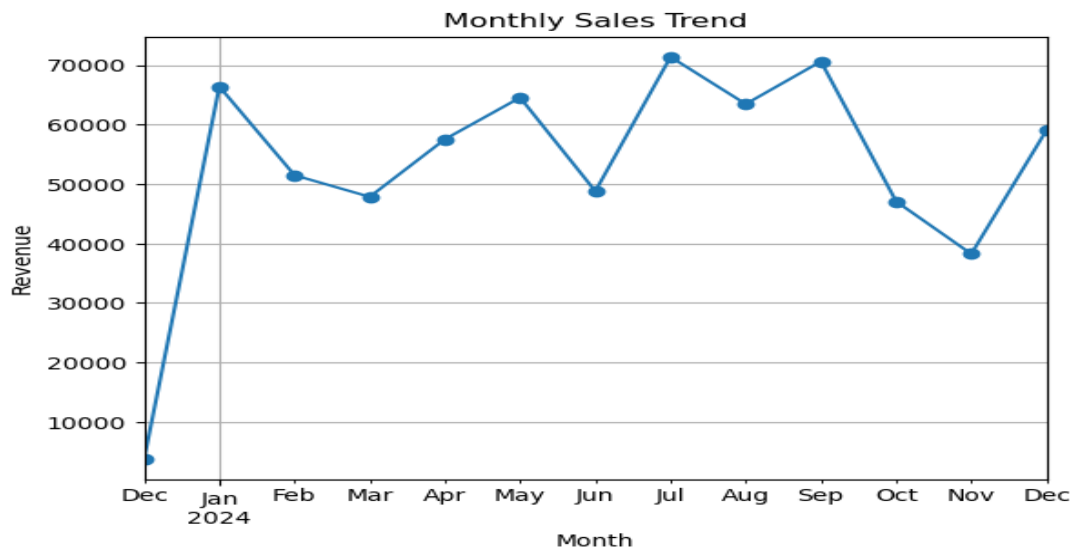


Monthly revenue peaks at **$71,366**, with a low of **$3,770**. The average revenue is **$53,077**, with most months ranging between **$47,829** and **$64,528**. These trends highlight significant fluctuations to address seasonality.

## 4. Average Customer Signup Trends
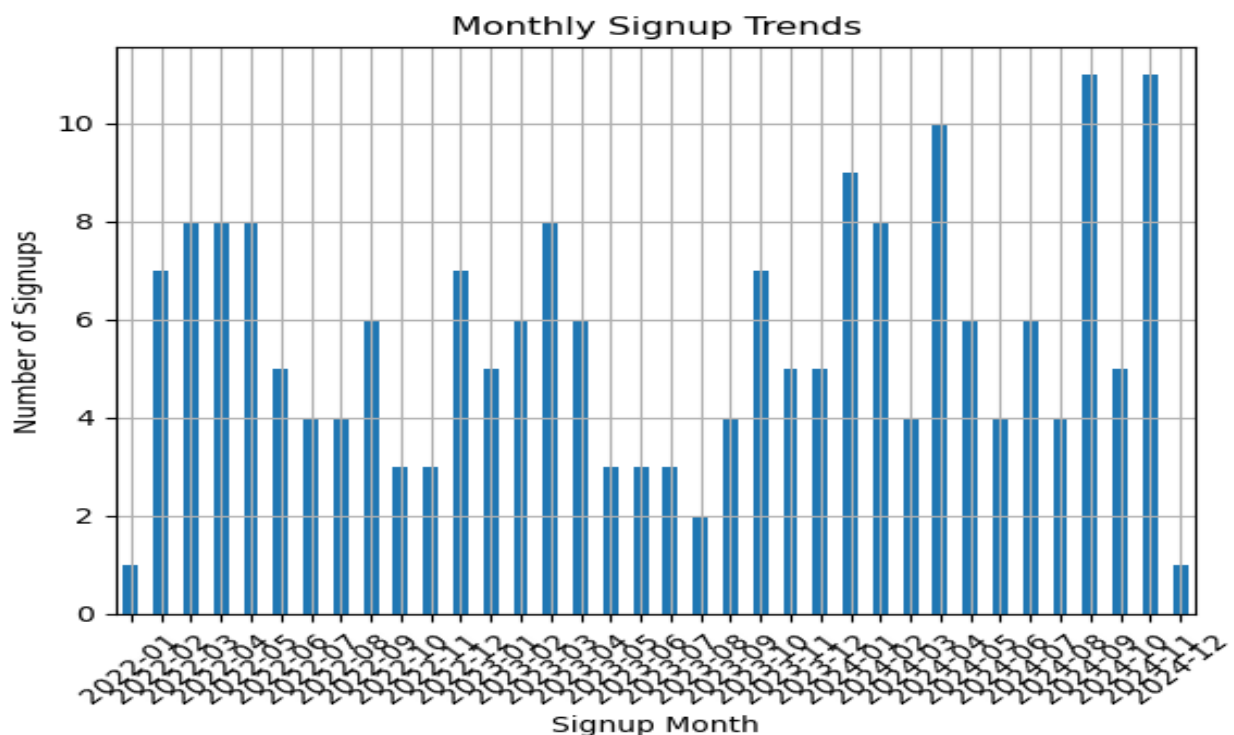


Signup activity peaks at **11 signups**, with the lowest at **1 signup**. The average is **5.56 signups**, with most months seeing between **4** and **7** signups. This suggests occasional spikes in signup activity that could be tied to specific events or promotions.

**5. Revenue Contribution by Product Categories**
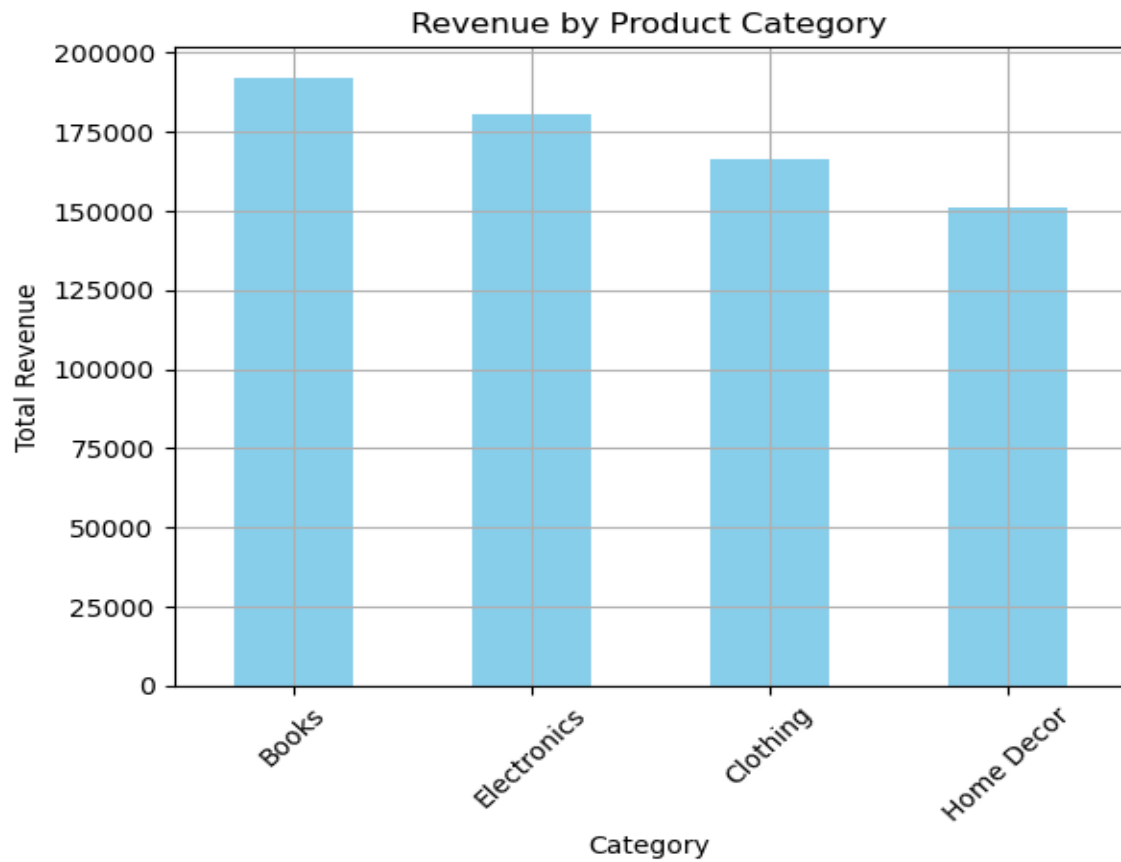


**Books** lead with the highest revenue contribution at **$192,147**, followed by **Electronics** at **$180,784**. **Clothing** and **Home Decor** contribute **$166,171** and **$150,894**, respectively. This highlights Books as the top revenue-generating category.