

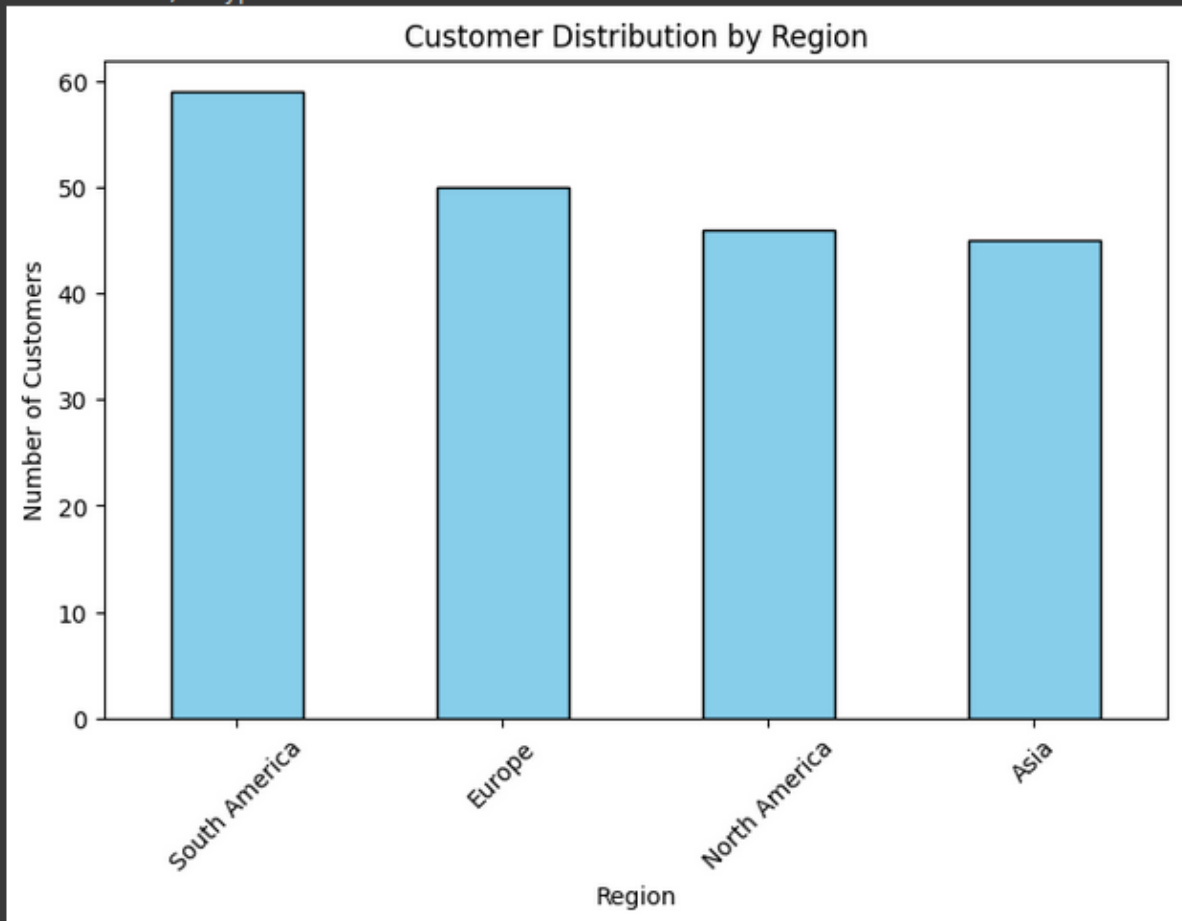
Business insights from the EDA

1. Regional Customer Distribution

Customers are more in the South American region (59 customers), followed by Europe (50), North America (46), and Asia (45). This shows that South America is a prominent market, but there is relatively balanced customer representation globally. The company can strengthen its marketing and customer support initiatives in South America to take full advantage of its dominant presence while searching for opportunities in Europe and North America.

Number of Customers by Region:

```
Region
South America    59
Europe           50
North America    46
Asia             45
Name: count, dtype: int64
```



2. Signup Trends

The data shows a significant rise in customer signups over the years:

2022: 64 signups

2023: 57 signups

2024: 79 signups

Peaking in the year 2024, implies that the advertisement and promotions within that period were somehow working. Continue spending on like-minded campaigns or adverts to probably further increase signups. As well, study from what was adopted during 2024 to copy to other coming years.

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Customer Signups by Year:
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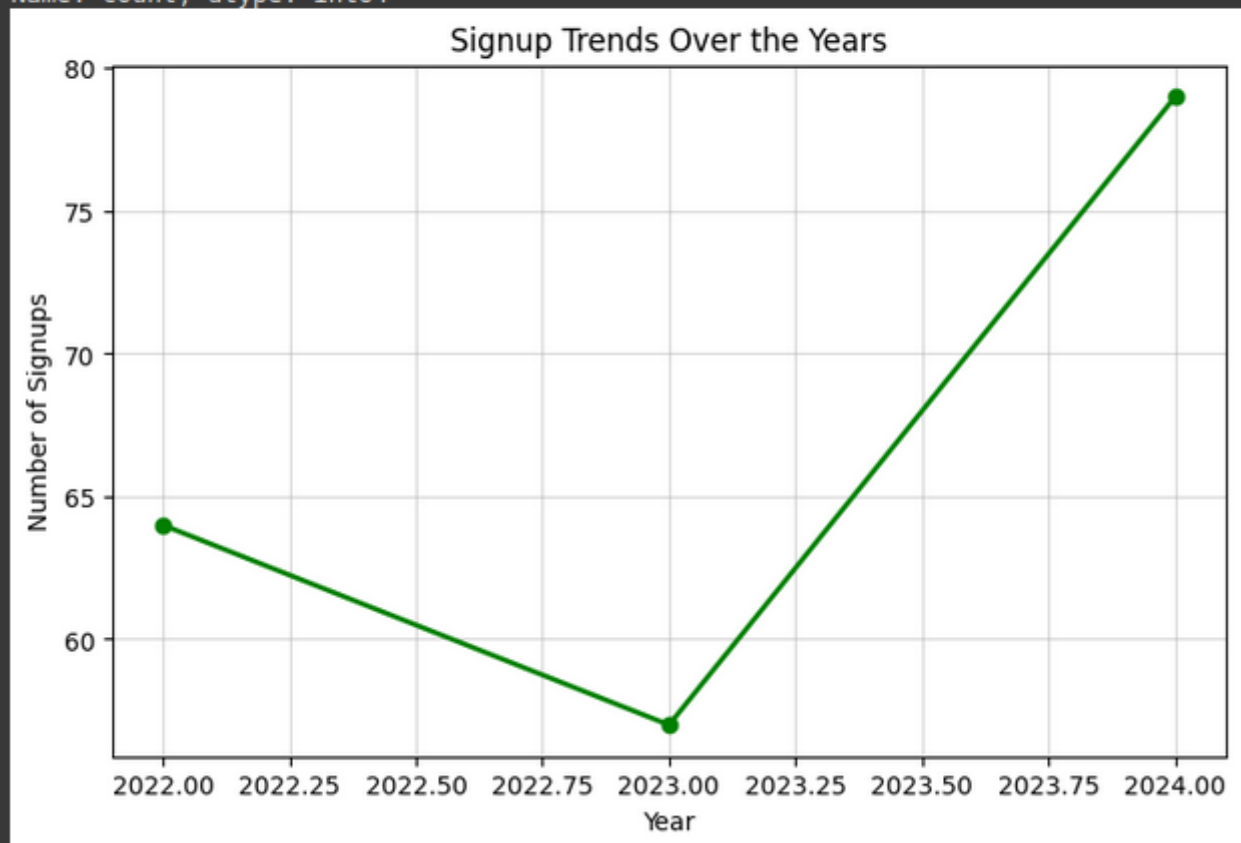
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SignupDate
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```
2022      64
```

```
2023      57
```

```
2024      79
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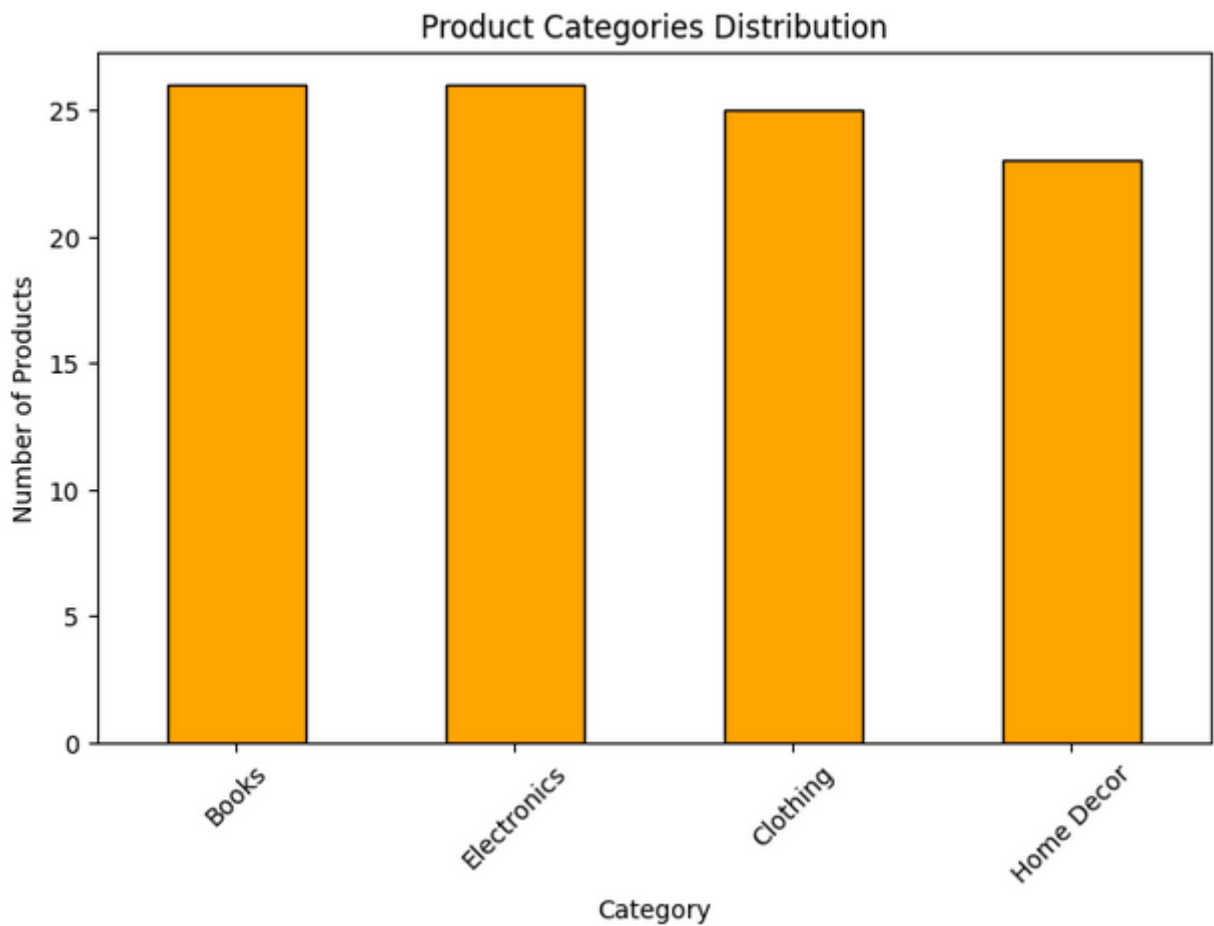
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Name: count, dtype: int64
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3. Product Categories Performance

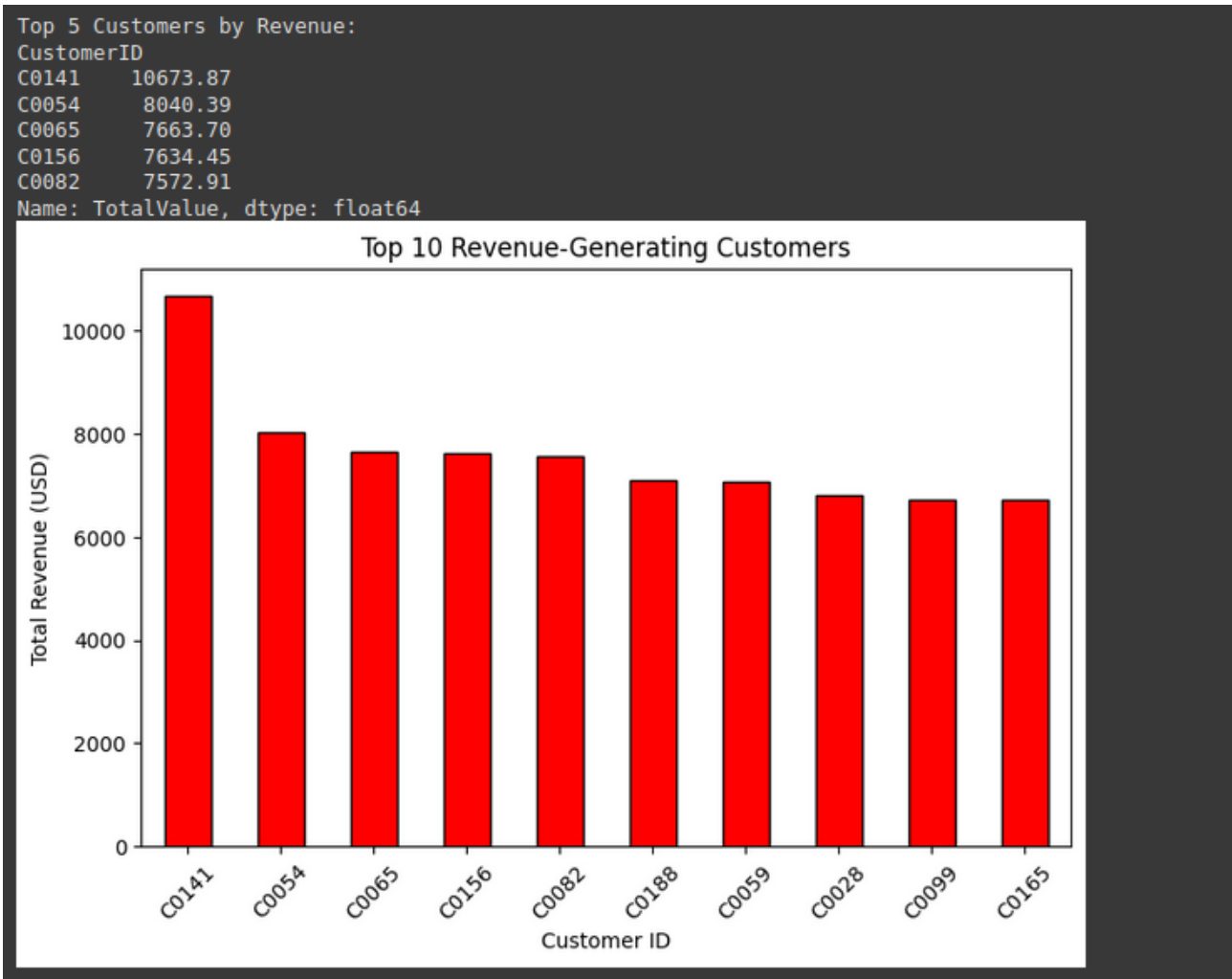
The product distribution shows that the Books and Electronics categories dominate the market, each contributing 26% of the product offerings, while Clothing (25%) and Home Décor (23%) are slightly behind.

Books may appeal to a niche but loyal audience, while Electronics likely generate higher revenue per transaction due to their pricing. Further revenue opportunities lie in expansion of Electronics or specific popular subcategories within that segment.



4. The top 5 revenue-generating customers accounted for the largest share of the total. The highest came from Customer ID: C0141, earning \$10,673.87.

To focus on high-value customers with loyalty programs, exclusive offers, or pre-access to a product can really strengthen relationships, ensuring long-term profitability. Analyzing the purchasing patterns will enable identifying trends and targeting similar customers.



5. Monthly Transaction Trends

Transactions were high in July, August, and September 2024, as it exceeded more than 90 transactions per month. This period is critical as these months would be the prime sales period. This may be because of the seasonal trend or back-to-school promotion or other festive events.

The marketing campaigns, inventory management, and staffing can be planned during such peak months.

Relatively low transaction volume in December (57 transactions) indicates that there may be room for improvement in end-of-year promotions to boost sales during the holiday season.

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Monthly Transaction Trends:
TransactionDate
2023-12      4
2024-01    107
2024-02     77
2024-03     80
2024-04     86
2024-05     86
2024-06     69
2024-07     96
2024-08     94
2024-09     96
2024-10     70
2024-11     57
2024-12     78
Freq: M, Name: count, dtype: int64
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