

Task 1: Exploratory Data Analysis (EDA) and Business Insights

5 business insights from the EDA.

1.Region-wise Customer Distribution

Most customers are concentrated in regions like South America,North America and Europe, suggesting these markets are dominant and should be prioritized for marketing campaigns and localized services.

2. Customer Signup Trends

The number of customer signups has steadily increased over the years, indicating consistent business growth. A noticeable surge in signups around certain years could correspond to successful marketing campaigns or product launches.

3. Product Pricing and Category Insights

Categories like electronics and household items dominate the product catalog. However, a skewed price distribution with many lower-priced items suggests that the business caters to budget-conscious customers.

4.Sales Performance Over Time

Monthly sales trends show peaks during holiday seasons, indicating the importance of seasonal promotions. Consistent dips in certain months highlight areas for improving off-season marketing strategies.

5.Top-Selling Products and Transaction Values

A handful of products contribute significantly to overall sales volume. Focusing on these products and offering bundled deals or discounts on complementary items can maximize revenue.

OVERALL SUMMARY:

1. Key customer regions: ['South America', 'Europe', 'North America']

2. Average transaction value: 689.9955600000001

3. Most popular product categories: ['Books', 'Electronics', 'Clothing']

4. Peak sales months: 2024-07

5. Average Order Value per Customer: 687.5801821245477

6. Top-performing Product Categories by Total Revenue: Category

Books 192147.47

Electronics 180783.50

Clothing 166170.66

Name: TotalValue, dtype: float64

7. Regional sales performance: Region

South America 219352.56

Europe 166254.63

North America 152313.40

Asia 152074.97

Churned Customer Demographics (by Region):

Region

Asia 19

Europe 27

North America 25

South America 27

Average Purchase Value for Churned Customers: 711.60

s.no	Product-ID	qunantiy	
0	P020	29.0	ActiveWear Jacket
1	P059	28.0	SoundWave Jeans
2	P074	28.0	SoundWave Desk Lamp
3	P061	27.0	HomeSense Desk Lamp
4	P022	26.0	HomeSense Wall Art
5	P058	25.0	ActiveWear Textbook
6	P029	23.0	TechPro Headphones
7	P040	22.0	SoundWave Mystery Book
8	P096	21.0	SoundWave Headphones
9	P028	19.0	HomeSense Desk Lamp

