

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

1. Regional Sales Trends

Insights:

Customers from **South America** have the highest average transaction value (**\$721.55**), followed by **Europe (\$710.49)**.

And the reason for most sales is the number of customers from these regions, as **most customers** are from **South America**. While **Asia** has **more sales** than **North America** despite having **less number** of **customers**.

Actionable Suggestion:

Design targeted campaigns offering premium products to South America while promoting bulk purchase discounts or loyalty programs in **Asia** and **North America** to increase revenue.

2. Product Performance

Insight:

Products in the **Books** (27.84%) category is the highest-grossing category followed by **Electronics** (26.20%), **Clothing** (24.08%) and **Home Decor** (21.86%).

And the most selling product is **TechPro Headphones** with Sales of around **19000 USD**, Followed by **ActiveWear Rug** and **TechPro Cookbook** which have sales around **17500 USD**.

Actionable Suggestion:

Focus on increasing the margins of **Clothing** and **Home Decor** through bundling or premium pricing.

3. Seasonal Transaction Trends

Insight:

Transaction volumes peak in **July and September** with total Sales(>70000), while the lowest activity is observed in **November, March and October**.

Actionable Suggestion:

Implement pre-holiday marketing campaigns and post-holiday clearance sales to maximize revenue during peak and off-peak periods.

4. Customer Retention and Recency

Insight:

Customers who signed up in the last **6 months** contribute to **16.17% of total revenue**.

Actionable Suggestion:

Introduce retention strategies like personalized email offers or loyalty points for recent sign-ups to encourage repeat purchases.

5. Revenue Concentration

Insight:

The **top 10 products** contribute to **22.19% of total revenue**, indicating a highly concentrated revenue base.

Actionable Suggestion:

Identify and prioritize high-value customers with exclusive benefits. Expand product variety or market top-performing products to increase overall revenue contribution.