Data Science Assignment: eCommerce Transactions Dataset

Through the EDA, we've derived several actionable insights:

1. **Customer Acquisition Trends:** This helps us understand how customer acquisition has evolved over time.
   Customer acquisition trends show steady growth with seasonal spikes.

   Identifying peak signup periods helps optimize marketing campaigns.

   Early months of the year show higher customer signups compared to other periods(Jna).

2. **Revenue by Region:** This helps us identify the most profitable regions.
   South America generates the highest revenue, followed by Europe and Asia.

   Regions with lower revenue like North America may require targeted marketing strategies.

   Revenue distribution highlights opportunities for regional expansion.

3. **Top Selling Products:** Helps to know which products are the most popular.
   Product like Active Smartwatch and Headphones are the top-selling items by quantity.

   High-demand products may need increased inventory to avoid stockouts.

   Popular products can be leveraged for cross-selling and promotions.

4. **Customer Lifetime Value:** Identifying high-value customers.
   60.30% of customers contribute to 80% of total revenue.

   High-value customers can be targeted for loyalty programs.

   CLV analysis helps prioritize retention strategies for profitable customers.

5. **Product Category Performance:** Understanding which categories drive the most revenue.
   Books and Electronics categories drive the highest revenue.

   Low-performing categories may need reevaluation or promotional support.

   Investing in top-performing categories can maximize profitability.

These insights can guide strategic decisions in marketing, inventory management, and customer engagement. Additionally, the predictive model can help in forecasting future sales, enabling better planning and resource allocation.